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THE BIG PICTURE MBA: WHAT EVERY BUSINESS SCHOOL GRADUATE KNOWS

COURSE GUIDE



Professor Peter Navarro
with Jon Masciana, MBA
UNIVERSITY OF CALIFORNIA, IRVINE
Paul Merage School of Business

The Big Picture MBA: What Every Business School Graduate Knows

Professor Peter Navarro

with Jon Masciana, MBA

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Executive Producer
John J. Alexander

Executive Editor
Donna F. Carnahan

RECORDING

Producer - David Markowitz
Director - Matthew Cavnar

COURSE GUIDE

Editor - James Gallagher
Design - Edward White

Lectures 1 through 12 ©2008 by Peter Navarro
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#UT052 ISBN: 978-1-4193-1384-4

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About Your Professor

Peter Navarro

Peter Navarro is a business professor at the Paul Merage School of Business at the University of California, Irvine. He holds a Ph.D. in economics from Harvard University and is the author of *The Coming China Wars: Where They Will Be Fought and How They Can Be Won*, the best-selling investment book *If It's Raining in Brazil, Buy Starbucks*, and *The Well-timed Strategy: Managing the Business Cycle for Competitive Advantage*, which illustrates

how a knowledge of macroeconomics can be used to improve executive decision-making.

Professor Navarro's articles have appeared in a wide range of publications, from the *Harvard Business Review*, *Sloan Management Review*, and *Wall Street Journal* to the *Los Angeles Times*, *New York Times*, and *Washington Post*. He has appeared on *60 Minutes* as an economic analyst and made frequent appearances on major financial news shows, including Bloomberg Television and CNN. Professor Navarro is also a regular CNBC contributor.

Professor Navarro's weekly economics and investment newsletter is distributed to tens of thousands of readers and available free of charge at www.peternavarro.com. Contact him at pn@peternavarro.com.



Special Guest Lecturer

Jon Masciana

Jon Masciana, MBA, is the director of admissions and recruiting for the Fully Employed MBA (FEMBA) Program at the Paul Merage School of Business at the University of California, Irvine. Before earning his MBA, Jon managed multimedia projects for Warner Bros. Records artists, as well as media projects for New Line Cinema, Maverick Records, Warner Special Products, and Warner Home Video. Shortly after receiving

his MBA, he continued consulting with Warner Bros. and taught Supply Chain Management and digital marketing courses to Warner Bros. Home Video. Jon holds an MBA, first in class, from University of California, Irvine's Paul Merage School of Business, a B.S. in Cognitive Science, Cum Laude, from the University of California at San Diego.



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Introduction

The purpose of this course is to provide listeners with an overview of the MBA degree—one of the most valuable graduate degrees available. Our focus is on the major courses taught in the core curriculum at any one of the top fifty business schools in the United States—from Harvard, Stanford, and UCLA to Columbia, Dartmouth, and Wharton.

The first lecture begins with an overview of the MBA core curriculum. Lectures 2 through 12 then systematically examine each of the major courses taught at America's top business schools—from accounting, finance, and marketing to economics, organizational behavior, and strategy.

The course concludes with two lectures that will help you select, apply to, and prepare for your business schools of choice. However, you don't have to be a prospective student to benefit from this course. Any business executive wishing to further hone his or her management skills will find this course to be extremely valuable.

Lecture 1: An Overview of the MBA Curriculum: Looking at the Forest Before the Trees

The **Suggested Reading** for this lecture is Peter Navarro's *What the Best MBAs Know: How to Apply the Greatest Ideas Taught in the Best Business Schools*.

The Audience for This Course

The big questions, key concepts, skills, tools, and wisdom conveyed in the core MBA curriculum provide business executives from all walks of life and in every layer of management with the most powerful arsenal of analytical weapons ever assembled to wage corporate warfare. The goal of this course is to provide a broad overview of the MBA curriculum—and thereby supply the concepts, tools, and analytical skills needed to be successful in business. As for who should participate in this course, there are at least four different audiences.

First, you may be considering an MBA degree and want to learn more about it. This course shows how the typical MBA curriculum is organized along “bread and butter” functional areas, such as accounting, finance, and marketing; “toolbox” topics, such as managerial economics and decision modeling; leadership topics, such as organizational behavior; and the broader strategic areas of macroeconomics and corporate strategy.

Second, you may have already been accepted to an MBA degree program and want to get a leg up on your classroom competitors. This course excels at this task because of its “Big Picture” approach to the core curriculum and coursework.

Third, you may be close to graduating or have already graduated from an MBA degree program. However, you may now realize that many of the concepts, tools, and skills that you acquired have begun to grow a bit fuzzy. This course can serve as both a capstone to your MBA experience and a handy reference guide.

Finally, you may already be a busy and seasoned business executive who has always wanted to go back and get your MBA degree, but never had the time. You may have pressing family commitments. You may have too many responsibilities within your company to afford the time to go back to school. Or you simply may not want to incur what is typically a hefty expense. If any of these shoes fit, the good news is that this course can serve as an able substitute for the physical classroom. In this regard, the down-to-earth and conversational style of each lecture will get you as close to being in an MBA classroom as you can get without actually sitting in a seat.

That said, this course can never be a perfect substitute for the MBA experience. Indeed, there are at least two main benefits of every good business school. The first is the key concepts, tools, and skills that will be conveyed in this course. The second, however, is the invaluable set of networks that most

students develop as part of their MBA experience. For many MBA graduates, these networks turn out, over time, to be almost as valuable as the knowledge embedded in the degree itself.

The Big Picture Overview

In both business and life, it's always useful to look carefully at the forest before examining each of the individual trees. That's precisely the philosophy of this course, which begins with a Big Picture overview of the MBA core curriculum and then examines each of the courses in that curriculum.

The core MBA courses appear in the conceptual framework illustrated in Table 1.1. The conceptual framework is one of the most common learning devices in business school, and this particular conceptual framework provides an overview of the MBA core curriculum at the "Top 50" business schools in the United States, as illustrated in Table 1.2.

The conceptual framework groups the courses in the typical MBA core curriculum into five separate—but highly interrelated—categories. These categories range from the "Strategic MBA" and "MBA Toolbox" to the "Functional MBA," "Organizational & Leadership MBA," and "Political & Regulatory MBA."

In any given top business school anywhere in the world, most or all of the courses listed will be part of the core curriculum. Note, however, that there is no "standard" MBA core curriculum. Instead, there are material differences across schools that prospective students need to consider.

For example, schools like the Sloan School of Management at MIT strongly emphasize quantitative skills and focus more on courses in the categories of the MBA toolbox and functional MBA. At the other end of the spectrum, schools like the Harvard Business School put more emphasis on leadership and organizational skills.

The first category—the "Strategic and Tactical MBA"—includes the two "grand chess master" courses—management strategy and macroeconomics.

Management strategy teaches both how and why to make the big decisions every corporation faces—from market entry and market positioning to product diversification and mergers and acquisitions. In a complementary way, macroeconomics is all about the "when," or timing, not just of these strategic decisions, but of many of the business-cycle-sensitive tactical and functional decisions of the organization as well—from production and inventory levels to the tone of the marketing messages.







Consider, for example, the executive team that can use macroeconomic forecasting to anticipate an approaching downturn in the business cycle. This team will begin to cut production and trim inventories—even as rivals are upping theirs. The team may also better be able to "right size" their company through more timely layoffs—even as their rivals continue to add workers at premium wages. Nor will such an executive team embark on an overaggressive capital expansion program when cash flow is likely to begin falling and borrowing costs are at their highest.

The second category of core courses includes two that will fit neatly into your MBA "tool box": quantitative analysis and managerial economics. These integrative courses provide a set of concepts, skills, and (yes) tools that you

can apply and use across the traditional functional disciplines as well as the broader tactical and strategic decisions of the corporation.

For example, when you learn about quantitative analysis and decision modeling, you will see that its applications are ubiquitous across the corporation. Supply chain managers can use so-called “linear programming models” to improve production and distribution efficiencies, while marketing executives can use “regression analysis” to determine the level of expenditures on their next promotion.

Table 1.1
The MBA Core Curriculum at the
Top 50 Business Schools in the United States

	Categories and Courses	Percent of Top 50 Schools Requiring Course
	The Strategic and Tactical MBA	
	• Management Strategy.....	92%
	• Macroeconomics	66%
	The MBA Toolbox	
	• Quantitative Analysis (Statistics, Decision Analysis, and Modeling)	94%
	• Managerial Economics	92%
	The Functional MBA	
	• Operations Management.....	96%
	• Marketing	100%
	• Financial Accounting	98%
	• Managerial Accounting	66%
	• Corporate Finance	100%
	• Information Technology.....	50%
	The Organizational and Leadership MBA	
	• Organizational Behavior and Leadership	90%
	• Human Resource Management	28%
	The Political and Regulatory MBA	
	• Business and Government	28%
	• Corporate Ethics	40%

Source: Compiled by Darlene Carver from an Internet survey of the Top 50 business schools in the United States, 2007.

Similarly, as you are introduced to concepts in managerial economics such as marginal cost, price elasticities, and opportunity costs, you will quickly understand how managers across every strategic, tactical, and functional area may find such tools useful.

The third category is that of the “Functional MBA,” the long-time “bread and butter” of the traditional MBA curriculum. It includes those courses in functional disciplines ranging from the dynamic duo of corporate finance and accounting to operations management and marketing.



Table 1.2
Top 50 Business Schools in the United States

1. Harvard University	26. University of Maryland
2. University of Pennsylvania (Wharton)	27. Purdue University
3. Stanford University	28. Michigan State University
4. University of Chicago	29. Georgetown University
5. Northwestern University (Kellogg)	30. University of Washington
6. Massachusetts Institute of Technology (Sloan)	31. Arizona State University
7. Columbia University	32. University of Minnesota
8. Dartmouth College (Tuck)	33. Pennsylvania State University
9. University of Michigan	34. Rice University
10. Duke University	35. University of Rochester
11. New York University	36. Vanderbilt University
12. University of Virginia (Darden)	37. University of Wisconsin, Madison
13. University of California (Berkeley)	38. Boston University
14. Cornell University	39. University of Iowa
15. Yale University	40. Brigham Young University
16. University of California, Los Angeles	41. Southern Methodist University
17. Carnegie Mellon University	42. Wake Forest University
18. Emory University	43. University of Notre Dame
19. University of North Carolina, Chapel Hill	44. Babson College
20. University of Southern California	45. University of California, Irvine
21. Ohio State University	46. University of Pittsburgh
22. Washington University	47. College of William and Mary
23. Indiana University	48. Georgia Institute of Technology
24. University of Texas, Austin	49. University of Arizona
25. University of Illinois, Urbana-Champaign	50. University of Georgia

Source: Compiled from the annual rankings of *Business Week*, the *Financial Times*, and *U.S. News & World Report*, as of April 2008.

In these courses, you will learn how to find and manage the funds for your company's capital facilities and activities. You will learn how to produce, distribute, market, and sell your products and services. You will also learn how to count your revenues, costs, and profits properly—both for external and regulatory purposes when you learn about financial accounting and for internal decision-making purposes when you learn about managerial accounting.

The fourth category of courses includes the suite of courses that address questions of organizational behavior, leadership, and human resource management. You will learn just why and how managing a successful business is very much a “team” sport. You will also see why even the best strategies that a company may pursue will ultimately crash and burn IF the structure of the organization is ill-designed to implement the strategy or the company has severe “people issues.”

At this point, it's important to point out that among many MBA students, a course like organizational behavior is the Rodney Dangerfield of the core curriculum—it doesn't get much respect. Why is this so?

On the surface, the world of business seems to be about specialization—and particularly specialization in core functional areas such as finance, marketing, and operations management. Of course, if you specialize in one of these areas, you will have a corresponding job title like chief financial officer or director of marketing. But who ever heard of a career path leading to “vice-president of organizational behavior” or “chief organizational behavior officer”?

Yet spend enough time in the workplace and you will discover that people in every specialization work best when they tap into this gold mine of knowledge called organizational behavior. OB, as it is called, not only helps you to understand, predict, and influence the behavior of others; it is also the platinum key to effective leadership.

The final category includes several courses that have spotty coverage across the top schools. These courses have to do in one way or another with effectively managing within the broader business and regulatory environment that all businesses must operate in. They include courses that are alternatively labeled, such as the governmental and legal environment of business, ethics and responsibility in business, business and government, business law, and just simply, ethics.

With respect to these courses, you may find it interesting that even though the government can do your business far more good or damage than any ten competitors, these types of courses are typically underrepresented in many top business schools. That's unfortunate, because understanding the regulatory environment can be every bit as important in the real world of corporate activity as understanding accounting and finance.

Equally underrepresented in many business schools are courses in ethics and social responsibility. In fact, there is much controversy here.

Some critics argue that ethics can't and shouldn't be taught at business schools. But in a post-Enron world, it has been argued that neither increased litigation or government regulation is sufficient to police corporate malfeasance and that business schools can—and should—be a positive force in bringing

about ethical change. In this view, the teaching of ethics and corporate social responsibility is not simply about business schools training fewer scoundrels. Instead, managers should also be able to understand the many ethical dilemmas they are likely to face over the course of their career. This is all the more important because these dilemmas are increasing in number as corporate activity becomes more global.

The Case Study

Another device for taking a second and deeper cut at this core curriculum is the all-hallowed and, in most business schools, the ubiquitous case study.

Suppose that you are a young Bill Gates with a hot piece of software or, better yet, a young Steve Jobs with an even hotter piece of hardware. By using this software or hardware, you and several business school buddies have come up with what you believe is the next “killer application” in the world of high technology. This “killer app,” which you have already patented, is so astonishing that ____ (*YOU fill in this blank with your own imagination*).

Now, if you are going to develop this product properly, the first step is to create a business plan. Such a plan will define your business, identify its goals, and include such financial accounting tools as a current and pro forma balance sheet, an income statement, and a cash flow analysis. The plan will also describe what service or product your business will provide and what needs in the marketplace it will fill, as well as who your potential customers are, how you will reach them, and why they will purchase it from you. Armed with such a business plan, you and your partners can try to raise enough “venture capital” to get the project up and running.

Now, if your company is successful over time, you will constantly be raising funds to build new facilities, modernize old ones, and maybe even acquire some of your rivals to consolidate your position in the industry. All of this will take money, and it will be your corporate finance team that will help you determine whether you will finance your growth by issuing new stock or new bonds or drawing on retained earnings—or, most realistically, using some combination of all three forms of capital financing.

Assuming you get your venture off the ground, here are some of the questions you will ask your teams of MBA-equipped experts that you assemble to help run your company.

For starters, although your product seems like a sure winner, you may still want your management strategy team to examine the question of whether or not you should even enter the market. Is there room in this market for another competitor? Perhaps not. Are there rivals out there who can bury you with their deep financial pockets, reputational capital, and established marketing and distribution chains? Perhaps so.

If you get the green light to enter the market, you will also want to know which part of the market you want to attack. In consultation with your operations management team, managerial economists, and your marketing team, your strategy team will also want to consider whether the company should actually produce the product or outsource production and simply distribute it. And if your company is going to produce the product, just where should the

facilities be located? Should you produce locally or perhaps in a state like Tennessee or Texas with a more business-friendly climate? Or should you seek an international location like India, Indonesia, or Malaysia, where wages are cheap but political upheaval is more of a risk.

Let's suppose that you will produce your own product. At this point, you will want to discuss with your operations management team how to design a production process that is the most efficient. This, of course, will entail a detailed examination of your "supply chain," which is the chain of "inputs" like energy and raw materials that you will need in your production process.

Of course, once you've produced your product, the next step will be to sell it. The role of your marketing team is to figure out the most appropriate distribution channels: Should you sell wholesale to the big chains like Walmart or Costco? Or open your own line of retail stores? Or just sell the product Amazon-style over the Internet?

Your marketing and sales team must also figure out an advertising strategy and the most appropriate message to build this strategy around. With considerable input from your firm's managerial economists, the marketing and sales team will also determine a pricing structure.

Of course, your product will be wildly successful, so the money will start to pour in. As it does so, it will be the job of the financial and managerial accounting teams to carefully track both the cost and revenue flows. Essentially, this team of "scorekeepers" will tell you whether you are making it—or will soon be broken. This team will account for the various cost and revenue streams, calculate your profits, distribute earnings to shareholders, and pay your taxes—and internally use such information to improve decision-making.

From an organizational behavior and human resource management point of view, in the early stages of the company, you and your entrepreneurial partners will likely know most of the employees, and together you will make most of the decisions. And like a lot of entrepreneurs, you may manage your company mostly from your gut and your hip rather than in the manner taught in management textbooks.

Note, however, that as your company grows and prospers, you will likely notice that it not only becomes increasingly difficult to keep track of everyone; any flaws in your personal management style will likely also be magnified.

Accordingly, once your fledgling corporation reaches a certain critical mass, it will become essential that you pay more attention to how your company is organized and what incentive structures you have in place to make sure it operates efficiently and to its full potential. At such a point, you will rely more and more on your organizational behavior and human resource management teams to staff the corporation, ensure the best management practices, and, perhaps most important of all, create a management culture in which morale is always high, productivity is maximized, and efficiency rules.

Once your corporation reaches a certain critical mass, it will also be important to manage the company in a scientific rather than purely intuitive way. Although your quantitative analysts will be important from the very start, this team will take on more and more responsibility as the corporation grows.

At this stage, it will become equally important that you become more and more aware of the political and regulatory environment within which your firm operates. This is where your business and government team will earn their worth. Want to locate a new plant in a particular state? You may have to lobby the local city council or state legislature for the appropriate permits. Make your money primarily off the Internet? Some states, and even the federal government, may be trying to impose stiff new Internet taxes that your industry may want to fight. Would a bigger capital investment tax credit allow you to build a new plant locally and thereby help keep jobs in the country? That might be a nice argument that your corporate lobbying team might pitch to a congressman or a committee.

At this stage in your corporation's development, it will likewise be important that you come to better understand the global economic environment—at least if your firm is going to produce and/or sell its products in other countries. Again that's where your management strategy team can help you wade through any cultural, geopolitical, or logistics minefields.

Throughout this whole process, you and all of your employees will want to conduct yourselves in a manner consistent with both the law and certain ethical canons. But during this ongoing process of wooing consumers and fighting competitors, you will soon learn that in some cases the law will allow you to do things that may not be quite up to your ethical standards.

In such cases, will you serve your shareholders or your moral consciousness? And how, buffeted by these ethical crosswinds, will you determine the "right thing" to do? Hopefully, with the help of both your lawyers and other advisors, you will figure that out—but a solid grounding in the concepts and lessons of corporate ethics will surely help.

Lecture 2: Statistics, Decision Analysis, and Modeling: How the Numbers Help Us Manage

The **Suggested Readings** for this lecture are Charles P. Bonini, Warren Hausman, and Harold Bierman's *Quantitative Analysis for Management* and Peter Navarro's *What the Best MBAs Know: How to Apply the Greatest Ideas Taught in the Best Business Schools*, chapter 11, "Statistics, Decision Analysis, and Modeling: How the Numbers Help Us Manage."

In this lecture, we will cover three basic areas: (1) statistical analysis, (2) decision and risk analysis, and (3) model building and analysis.

Statistical Analysis

How should executives and managers evaluate and interpret data in decision making? To answer this question, you generally have to ask one or more smaller questions: How was the data obtained and what was its source? What is the group represented and is there bias in the selection? Is there a proper comparison? Are there missing factors? Is there proper graphic representation?

To illustrate why these questions are important, think about this example comparing the number of automobile traffic deaths in the United States in two different years. In 1963, deaths totaled 43,265. By the year 2000, however, the number of deaths had increased to 44,281.

Does this increase in deaths mean that driving was more dangerous in the year 2000 versus 1963? The answer is a definite "no" once you factor in both a large increase in the number of cars on the road and the actual miles driven. Indeed, if you compare the number of vehicle deaths per 100 million vehicle miles in 1963 versus the year 2000, the drop is dramatic—5.41 deaths in 1963 versus only 1.55 in 2000. Viewed in this fashion, automobile safety had increased significantly. That's why it is always important to consider the full context of the data analysis.

A second important question is this: How should surveys be designed and analyzed and samples be drawn? In fact, evaluating information based on samples and surveys is a very important part of any statistical analysis course module.

For example, a marketing department may conduct surveys of potential customers to test new products or evaluate advertising. Operations managers may similarly take samples of incoming materials or outgoing product to determine if quality standards are being met. In either case, a sample is taken from some larger group, called a population in statistical terminology.

One important issue is how the sample should be selected so as not to be unrepresentative or biased. A second related issue is the accuracy of the sample. If the sample is selected at random, there is a basic formula that determines the sampling error.

In this formula, sampling error equals the standard deviation divided by the square root of the sample size, where the standard deviation is a measure of variability. This standard deviation indicates how far away from the average or the mean that the individual values vary.

As an application, a manufacturing firm may need to ensure that the components of its product meet certain standards. If sampling is used to check on these standards, company analysts must calculate how large a sample will be to ensure accuracy within the specified limits. Similarly, if a marketing firm is conducting a survey of potential customers, the analysts can determine the sample size, and hence the cost of the survey necessary to estimate sales.

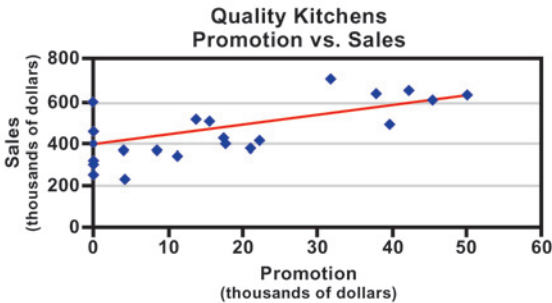
An important related topic in statistical analysis is called the Test of Hypothesis. The idea here is to use data from a sample to prove or disprove some hypothesis. For example, a drug manufacturer may conduct a clinical trial to prove that its new drug or medical treatment is superior to existing treatments or to a placebo. Note that the measure of sampling error is an important part of this analysis.

Another important set of tools to evaluate data is that of simple and multiple regression analysis. In this regard, the ability to make predictions based on data is another key element in statistical analysis.

In a simple example, suppose the Quality Kitchens Company uses promotion expenditures as a means of increasing sales. Such promotion expenditures involve special offers to supermarkets, such as offering one free case with the purchase of three cases. Figure 2.1 shows the dispersion of the historical data as dots for the past twenty-four periods and an associated “regression line.”

To get that line, simple regression analysis involves using the data to estimate an equation relating the two variables—sales and promotions. In addition, in cases where more than one variable may be important in explaining an event like sales, multiple regression analysis may be used. Multiple regression is a similar approach to simple regression that estimates the effect of multiple variables on the one to be predicted. Such estimation can be done with just about any statistical package on the market today.

Figure 2.1
Simple Regression Analysis



Decision and Risk Analysis

Many of the most important executive and managerial decisions are made under conditions of uncertainty. With uncertainty, one simply doesn't know for sure what the outcome will be.

For example, a company may introduce a new product, but the firm's marketing executives are not sure about customer acceptance and hence about the level of sales. You may buy stock in a given company, but you are not sure if the price will rise or fall. And a company must build up inventory for an item without knowing what the demand will be.

Decision and risk analysis is the process of thinking through such decision problems. Using the tools of such analysis, strategies are determined and evaluated, expected values are determined, and the risks are evaluated.

Here's an example to give you a glimpse of the power of these tools. A major Georgia electric power company is considering selling power to Florida. However, to do so requires the construction of major transmission lines at a cost of \$100 million.

What should the executive team do? Well, first the team recognizes that there are major uncertainties associated with the investment. These include the final cost, the long-run power demand in Florida, the reaction of competitors, and the share of the market the company could get. After conducting a decision analysis which shows that there is substantial risk associated with the initial planned strategy, the executive team may decide that the company should gather additional information about the competitive situation. In fact, after such an analysis, the executive team may be able to develop a different strategy that could be undertaken with much less risk.

In dealing more broadly with any decision problem under uncertainty, there are five factors that must be taken into account:

- The decision alternatives that can be undertaken.
- Any uncertain events that can occur.
- The payoffs in profits or costs associated with each pair of events and alternatives.
- The likelihoods or probabilities that the various events will occur.
- A decision criterion (that is, a method for deciding among the alternatives).

To illustrate how these five factors come into play, suppose there is a florist in the Honolulu airport who sells a special type of floral arrangement intended for tourists returning home. The arrangements cost the florist \$5 each and are sold for \$15 each. The unsold floral arrangements must be discarded at the end of the day. Since customers are one-time buyers, the florist does not consider any "goodwill loss" from turning away potential buyers.

Note that the florist, who has an MBA degree, has kept careful track of past requests and sales and thinks that this experience is representative of tomorrow's possible demand. In the past, the florist's data show that between ten and seventeen floral arrangements have been demanded on any given day.

More specifically, on 5 percent of the days, ten arrangements were

demand, while on 20 percent of the days, fourteen were demanded, with the overall average of fourteen units demanded.

In light of this data, the florist's decision problem is the number of floral arrangements to order for tomorrow. The possible events are the number demanded. The decision alternatives are the number ordered, say from ten to seventeen. The likelihood for the various events are stated as probabilities. And the payoffs associated with each combination of alternative and event are calculated based on the revenue generated and the costs incurred.

For example, if the florist chooses to stock thirteen units and eleven are demanded, the cost will be \$65, which is thirteen purchased times \$5. The associated revenue will be \$165, or eleven units sold times \$15. That leaves a net profit of \$100.

Now what about the actual decision criterion—that is, how should the florist actually decide what to order? One very useful criterion is the expected value criterion. With this criterion, the payoffs are weighted by the probabilities.

For example, if you have a 50 percent chance of getting a \$100 payout, the expected value is \$50, or 50 percent times \$100.

In at least one scenario, if the florist were to maximize the expected profit using the expected value criterion, a stock level of fifteen floral arrangements would be purchased, with an expected profit of \$131.25 per day. What is interesting about this result is that while the average demand is only fourteen units, the expected value is actually highest when the florist stocks fifteen units. This is because the profits are taken into account as well as the likelihoods.

This illustration is an example of what is called the newsboy problem, and it is why newspaper companies often put more newspapers in a dispensing machine than might be bought on any given day.

To estimate probabilities and risk, consider this real, although much simplified, decision problem for the Blackfoot Potato-Processing Company in Idaho. This firm buys potatoes from growers and processes them into potato flakes that are then sold to food manufacturers such as Proctor and Gamble for making potato chips. Note that the company can purchase its potato requirements in one of two ways, or a combination of the two.

One method is simply to purchase the potatoes on the open market after the crop has been harvested. The other alternative is to use a preseason contract, which is a contract to purchase the grower's crop when it is harvested at a price that is set "preseason." In other words, the processing company can purchase all its requirements on the open market, or all by preseason contract, or some combination. Thus, the decision alternatives involve the different purchase options.

In considering these alternatives, the firm's potato buyers know that while the preseason price is fixed at the decision-making time, the open market price that will occur when the crop is harvested is the uncertain factor. Indeed, the price could be anywhere from \$2.50 to \$5.50 per hundred pounds of potatoes—a very wide swath indeed. These prices are the uncertain events, and there are many factors contributing to this uncertainty, including the size of the crop planted, weather conditions during the growing season, demand for potatoes, and so on.

For example, in a recent year there was a major shortfall in the potato crop in Ireland, leading to major demand for exports of American potatoes. This, in turn, led to very high open market potato prices.

In this example, the firm's executive team will use the data available and assign its best judgment about the probabilities or likelihoods of the various events. What is interesting about this process is that although the team comes up with hard numbers, it must make subjective judgments to get those numbers. Please always remember that.

Now consider the concept of the sequence of decisions and a very powerful tool in decision analysis known as the decision tree. In this regard, many important decision problems involve not just a single decision, but a sequence of decisions.

For example, Merck is a leading firm in the pharmaceutical industry and makes major investments in drug research. It may take many years for Merck to bring a drug to market, and the process involves not only research, clinical trials, and production facilities, but also quite literally hundreds of millions of dollars.

Because many drugs fail at some stage in the process, Merck's executive team must continually cope with such risk. Accordingly, Merck has developed a decision analysis process for evaluating new drugs, including a decision tree approach allowing decisions about continuing or abandoning the product at various stages. Company statisticians also use sophisticated methods to evaluate probabilities of success at the various stages based on Merck's experience. This process has proven effective in dealing with this complex decision problem.

Figure 2.2 illustrates a simplified example for a new product introduction by the Merck executive team. You may want to study it for a minute or so before moving on.

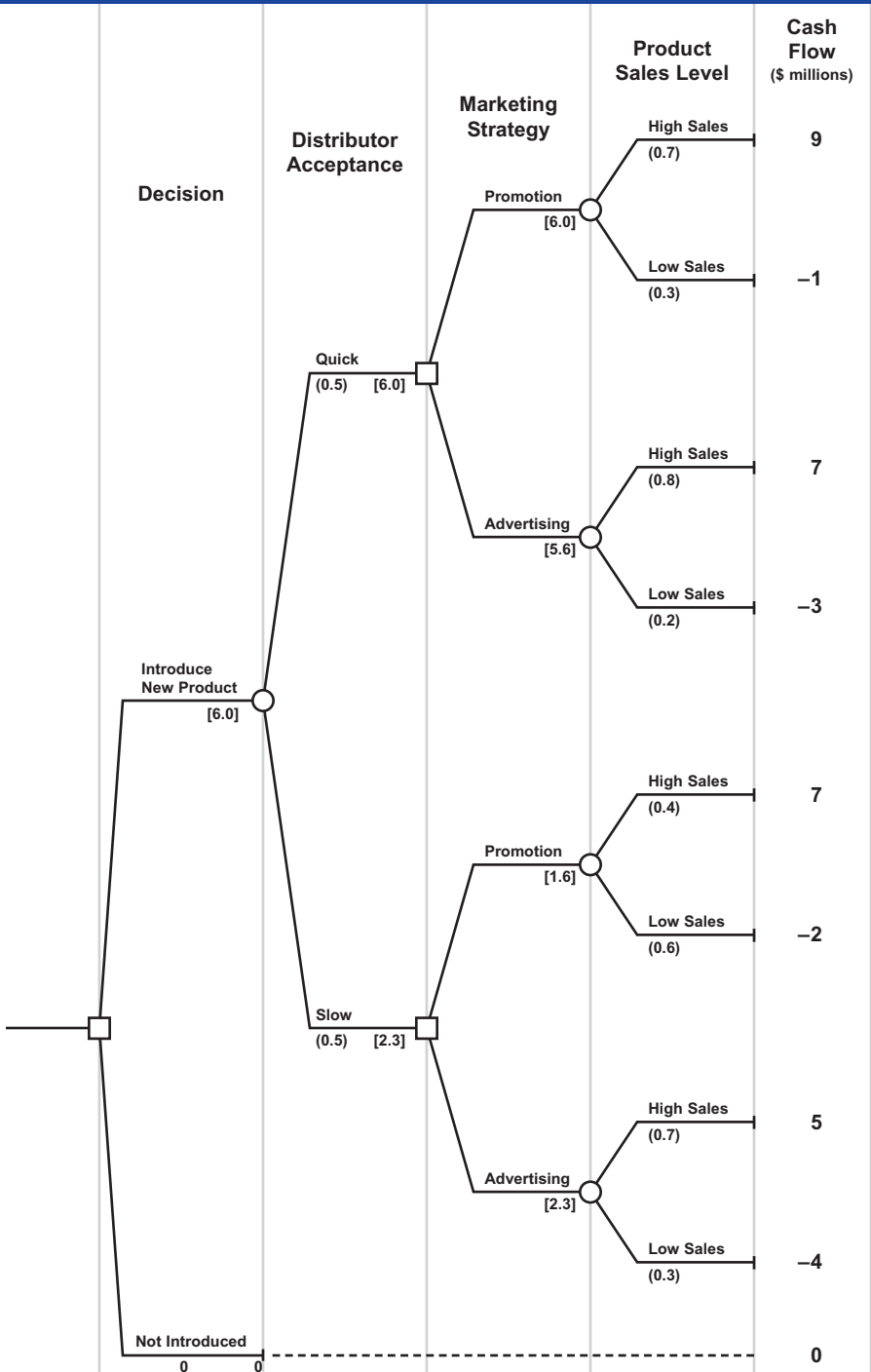
In the decision tree, square nodes represent decisions, and circle nodes are events. As seen in the figure, the firm must first decide whether to introduce the product or not. If the product is introduced, there is then an unknown event—whether the distributor acceptance is quick or slow; and note that the associated probabilities are shown in parentheses.

After learning about the speed of distributor acceptance, the executive team then has a decision to make about its marketing strategy—either to emphasize promotion or advertising. The final event is the sales level—either high or low. The resulting cash flows for each alternative are shown at the end of the branches on the far right.

Note that the tree is analyzed from right to left, and the expected values are shown in brackets. Based on what you see in the figure, what, then, do you think is the optimal strategy described by the decision tree?

Well, it should be readily apparent from your study that the optimal strategy is to first introduce the product. If there is quick distributor acceptance, you should emphasize promotion, but if there is slow distributor acceptance, you should emphasize advertising. The expected value of this strategy is \$6.0 million.

Figure 2.2
Simplified Decision Tree



More broadly, understanding the details of the tree structure and analysis is not critical here. Rather, the purpose is to show that complex multistage decisions can be analyzed while risk can also be assessed for the various possible strategies.

Model Building and Analysis

Since most important decision problems are very complex, involving a large number of factors, it often helps to build a simplified replica of the situation. This is called a model.

For example, an architect, in designing a new building, will build a small physical replica to demonstrate the design. In contrast, in business situations, the model usually is a mathematical representation of the situation that may be analyzed either on a spreadsheet or using more sophisticated computer software.

In building any model there are a number of factors that are common. The first is the set of decision variables. These variables are the factors that are under the control of the decision maker.

Second, there are so-called exogenous or independent variables. These important factors are those that are not under the control of the decision maker and must be taken as given.

Third, there are certain constraints that limit the actions of the decision maker; and fourth, there are performance measures, indicating the profit (or cost) of the possible solutions.

To illustrate all this, suppose a laptop computer company is scheduling production for its next period. Suppose further that the company makes four different models of the computer—we'll call these four models the Standard, the Excel, the Sport, and the Superba.

Each of these models has different features and sells for different prices, and the profits and all of the models involve two production steps—assembly and test. In addition, it takes different amounts of time to assemble and test each model.

For example, the cheap standard model, which sells for \$120, requires five hours of assembly time and two hours of test time. In contrast, the top-of-the-line Superba model, which sells for more than double the price at \$300, takes eight hours to assemble and five hours to test.

Now, in the next period, the laptop firm has five thousand hours of assembly time and three thousand hours of test time available. In addition, the Sport and Superba models require a special display screen and the supplier of these screens has indicated that no more than 250 are available in the next period. Finally, the firm has a contract to supply at least 200 units of the Standard model to a given distributor.

So let's ask ourselves first: what are the decision variables in this example? These variables are simply the number of each model to produce.

What are the exogenous factors? These are the limits on special display units and the contract for Standard models.

Next, what are the constraints? These are the limits on the test and assembly times.

Finally, the performance measures are the unit profits for each model. Now, the overall objective of the decision maker is to determine a production schedule to maximize profit. By building an appropriate model using the technique of mathematical optimization, the laptop maker can come up with a profitable answer.

As for exactly what type of model a decision maker might use, there are numerous choices. These types of models are illustrated in Figure 2.3. In this figure, the various models are arrayed in matrix form. The first-column vertical dimensions include simple, complex, and dynamic models. The first horizontal dimensions distinguish between conditions of certainty and uncertainty.

From the figure, it can be seen that certain types of models are better suited to different types of problems. For example, for simple problems, the case model may be used. A case model is simply a model of a decision problem that is analyzed by trying out a series of cases (possible outcomes or scenarios) using different alternatives or different assumptions. Note that with such a simple model, the model is not programmed to find the “best” solution directly. Rather, the manager uses the model in a trial-and-error process.

In contrast, many of the other types of models are optimization models, in which the model uses mathematical procedures to find the optimal or best solution. One such class of models is the decision analysis models that we have already discussed earlier in this lecture. Other optimization models range from linear programming to more complicated integer programming, simulation, inventory, critical path, and queuing models.

These models may be used to solve complex problems. Complex problems are those that involve a large number of important factors or variables, and they may have many alternatives to consider.

One method used to solve such problems in the presence of uncertainty is that of simulation. Simulation is a technique for modeling large complex systems, and in any simulation, a model is designed to replicate the behavior of the system.

Figure 2.3
Matrix of Decision Models

Decision Problem	Major Variables in Decision Problem	
	Certain	Uncertain
Simple	<ul style="list-style-type: none">• Case Models	<ul style="list-style-type: none">• Decision Analysis (including Decision Trees)
Complex	<ul style="list-style-type: none">• Case Models• Linear and Integer Programming	<ul style="list-style-type: none">• Simulation
Dynamic	<ul style="list-style-type: none">• Inventory Models• Critical Path Models	<ul style="list-style-type: none">• Simulation• Inventory Models• Queuing Models

A second important class of models used to address complex problems is linear programming. This widely used model is based on mathematical techniques to find the maximum (or minimum) of an objective, subject to a set of constraints.

As an example of the power of linear programming, consider Tata Iron and Steel—the largest producer of iron and steel products in India. In the steel-making process, iron ore is converted into hot iron metal in a blast furnace and then made into steel in one of three types of furnaces. The steel emerges from the furnace as hot ingots, which are rolled in rolling mills into various semi-finished products such as so-called slabs, billets, and bars. These intermediate products can then be sold to outside firms for finishing. Alternatively, Tata can finish these slabs and billets and bars in its own finishing mills by turning them into various types of steel plates, cold-rolled strips, structural steel, and other products.

Now here's the problem Tata faced—significant electricity shortages. When a power shortage occurred, it forced Tata to shut down a part of its operations. This turned a profitable operation when power was available to one that was losing money when there were shortages.

To deal with this problem, the Tata executive team debated what operations should be shut down when a power shortage occurred. The conventional wisdom indicated that the mill should maximize tonnage produced, and hence only the finishing mills should be shut down. This is because the finishing mills were not adding tonnage but only finishing tonnage that had already been produced.

To solve its problem, Tata employees built a complex linear programming model for this situation that consisted of fully 770 variables and 680 equations. Surprisingly, the results of the model bucked the conventional wisdom. Instead, this model recommended a very different mix that entailed shutting down some primary mills AND some finishing mills in balance. This solution saved Tata half a million dollars a day.

Still a third class of models involves the so-called queuing model. Of course, most have been in situations where they have had to queue or stand in line. It might be waiting for a teller at the bank, for a checkout at the supermarket, for a checkin at the airport, or on the telephone waiting for “the next available operator.”

Executives and managers who find themselves in these situations know that waiting time is a negative for customers and wish to reduce it as much as possible. But in some situations, the arrival rate is uncertain and variable. And the service time may also be variable. For example, in a grocery store, some customers will have full shopping carts but others only a few items.

As a solution to keeping customers waiting, a manager or executive can use additional resources to make more service stations available. But there are certainly other options that should be evaluated.

For example, the service stations can be “pooled” rather than individually operated. That's what most banks and airports do. In the pooling arrangement, there is a single line for service and many open windows rather than a line at each window.

Another option is the “priority scheme,” which can improve service. One example is the “Ten items or less” counter at the supermarket.

Ultimately, the executive team must determine the structure of the queuing system and an appropriate balance between customer waiting time and service cost. For relatively simple waiting line situations, there are many different mathematical queuing models that can be used for these analyses.

Lecture 3: Strategic Marketing: Moving Your Products

The **Suggested Readings** for this lecture are J. Paul Peter and James H. Donnelly, Jr.'s *Marketing Management* and Peter Navarro's *What the Best MBAs Know: How to Apply the Greatest Ideas Taught in the Best Business Schools*, chapter 5, "Strategic Marketing: Delivering Customer Value."

The great management guru Peter Drucker once said: "The purpose of a business is to create and retain customers." This simple dictum captures the absolute essence of marketing management.

Drucker's dictum is true whether the enterprise is a public one like the United States Post Office or a private one like Federal Express. It is true in a for-profit enterprise like Exxon/Mobil or a not-for-profit one like the American Red Cross. And it is true whether Caterpillar is selling capital equipment like tractors, Procter & Gamble is selling consumer package goods like diapers, or AFLAC is using stand-up comic ducks to sell insurance.

The fact is, without satisfied customers, no business can survive and prosper. That's why in this lecture, you will be guided through the Four Steps of Strategic Marketing Management (see Figure 3.1).

Step One: Identifying and Satisfying Customer Needs

An astute marketer understands just what the consumers' needs are and how consumers go about making decisions. A useful starting point to cultivate such an understanding is to clearly distinguish between the features of a product or service and its benefits.

Features are what an enterprise builds into a product or service—from power steering and satellite radio in cars to energy efficiency and ice machines in refrigerators. These features are tangible and objective.

Benefits, on the other hand, are what customers receive from using the product or service. They are by their very nature inherently subjective. That is, they are perceived by the customer.

It follows that properly managing the perceived benefits of the firm's market offerings is essential to the value equation in marketing. In fact, the astute marketer understands there are two ways an organization can increase value. One is by increasing perceived benefits. The other is by lowering price. As a general rule, however, it is greatly preferable to compete "above the line" on perceived benefits rather than engaging in price competition.

Of course, closely related to the concept of customer value is the idea of customer satisfaction—but how is this measured? One common way is to make an implicit comparison between (1) the expected performance of a product or service prior to purchase and use and (2) the perception of actual performance during and after use. In fact, there are three possibilities.

First, if expectations exceed perceived performance, customers experience dissatisfaction. That is, they do not perceive good value.

Second, if perceptions of performance match expectations, the customer experiences satisfaction. They got what they paid for—no more and no less.

Third, when perceived performance exceeds expectations, the customer experiences delight. Many enterprises try to achieve customer delight by augmenting their products and services to deliver more benefits than the customer anticipates. In this way, marketers not only create value, but also will likely create more value than their competitors.

Truly effective marketers place considerable emphasis on understanding what the consumer wants and needs, how the consumer perceives value, and what feelings of satisfaction, dissatisfaction, or delight the consumer may experience. A major tool used in the actual implementation of these ideas is called market research or, alternatively, market intelligence.

Market research focuses on the firm's current and potential products and markets; and two big questions of such research include (1) What is the customer decision-making unit? and (2) What is the decision-making process?

The decision-making unit comprises a set of roles played by various members of the household or organization making a purchase. In an organizational context, the decision-making unit is referred to as the buying center, and note that regardless of whether a household or an organization is making the purchase, five key roles are present.

First, an information gatherer or gatekeeper seeks out and controls the flow of product-related information into the decision process. Second, an influencer exerts influence—but does not actually make the decision. Third, the decision-maker is one or more individuals with decision-making authority. Fourth, the users are the individuals who will actually consume the product. Finally, the purchaser or purchasing agent is the person charged with the responsibility for making the actual procurement.

While all of this sounds a bit dry and technical, it can be quite interesting. Consider, for example, a common household purchase like breakfast cereal. A child sees a TV commercial for a new cereal and requests it from his mother. The child has played the role of information gatherer. If the child's request is accompanied by whining, the child also is playing the influencer role.

Now if the mother chooses to add the cereal to the family shopping list, she has assumed the decision-maker role. When the child's father dutifully plucks the cereal from the supermarket shelf during his weekly shopping trip, he plays the purchaser role. The next morning at the breakfast table the child assumes the role of the user.

Any given individual may play multiple roles in the decision-making unit and multiple people may play a single role. More broadly, understanding the decision-making unit and which members are playing what roles is important in product positioning and promotional strategy. Perhaps most importantly, marketers cannot assume that the purchaser, or even the user, is the decision maker, that is, the one who must be convinced of the product's value.

As for the decision-making process itself, it is most often construed as problem-solving by the consumer. Typically, the decision-making process is

initiated by problem recognition. For example, you might have a job interview next week, which leads you to conclude, “I need a new suit.” Once the problem is recognized, the problem-solving process then proceeds in a series of stages.

First, an information search identifies potential solutions in the form of various products or brands. Next, there is an alternative evaluation that weighs the advantages and disadvantages of the various options to arrive at the best brand. Third, there is the actual purchase, which is followed by the consumption or use of the product.

Note that the resolution of one problem may instigate another problem-solving episode. For example, you may think: “I just bought a great new suit; now I need a shirt, tie, and shoes to go with it.” And off you go again.

Figure 3.1
The Four Steps of Strategic Marketing Management



In the analysis of such problems, the astute marketer will take into account the degree of consumer involvement in any given product search. It is important for the marketer to have a sense of the degree of typical consumer involvement, because this will have an important influence on the marketing strategy adopted. This involvement is determined by the degree to which the consumer considers the decision important and hence is motivated to make an optimal (or near-optimal) choice.

For example, a “high involvement” decision might involve an MBA student buying a new interview suit. In contrast, many consumer purchases like that for chewing gum or toothpaste or paper towels are “low involvement,” because they lack significance; and such low-involvement decision processes are obviously faster and less complex.

In fact, any marketing strategy must identify three things: first, the firm's target markets; second, the firm's product and service offerings that it plans to provide to satisfy the target market's needs; and third, how the firm will build a sustainable competitive advantage—defined as an advantage that cannot be easily duplicated by competitors.

Selecting a target market means first identifying the different types of customers in that market. This is done through a process known as market segmentation. The fundamental criteria for evaluating market segments are that (1) customers in the segment must have similar needs, seek similar benefits, and be satisfied by a similar offering and (2) those customers' needs must be different from the needs of customers in other segments.

Market segmentation is important because not everyone wants the same restaurant, soft drink, truck, or microprocessor. For example, families traveling on a vacation have different needs than executives on business trips. That's why Marriott offers different types of hotels that appeal to customers in each of these segments—from the Courtyard and Residence Inn to the Ritz Carlton.

In fact, there are numerous ways to segment a market. For example, the HEB supermarket chain segments the market geographically and targets consumers in Texas. Gerber segments its market by family life cycle, targeting families with children under the age of three. And Crest segments the toothpaste market by benefits sought, targeting consumers with a need to prevent tooth decay.

Business markets likewise can be segmented using some of the same variables as consumer markets. For example, Dell segments the market for PCs by customer size. It markets to small businesses and retail consumers through its Internet site (Dell Direct). It also markets to large corporate customers through its sales force.

So as you can see, a market can be segmented in any number of different ways. However, the question for the astute marketer is this: Which is the best way to segment? In fact, there are three important criteria for evaluating whether a market segment is a viable target. These include (1) actionability, (2) identifiability, and (3) accessibility.

Actionability means that the definition of a segment must clearly indicate what the enterprise should do to satisfy customer needs. For example, the retailer Lane Bryant caters to full-figured women and the different styles and

fit they require. It segments the women's apparel market based on one obvious demographic characteristic—physical size.

Identifiability is important because it permits the firm to determine two very important facts: (1) What is the segment's size? and (2) With whom should the firm communicate to promote its offering? In this regard, most major marketers begin by segmenting on the basis of age and sex, data that are readily available from the U.S. Census and commercial services. Gillette, for example, can easily ascertain how many men between the ages of eighteen and thirty-four are in the market for its Mach 3 razor.

The third criterion—accessibility—is the ability of the firm to deliver the appropriate products and services to the customers in the segment. For example, customers for Marriott's convention hotels versus resort hotels are accessed in very different ways because they use different sources to collect information about hotel services.

In this regard, research has shown that convention hotel customers are best reached through newspapers such as *USA Today* and the *Wall Street Journal*, while resort hotel customers are best reached through ads on TV and in travel and leisure magazines.

Step Two: Develop a Marketing Strategy

Step Two not only entails the development of a marketing strategy, but also the creation of a sustainable competitive advantage.

A key concept here is that of product differentiation. In fact, creating differentiated products for the firm is right up the alley of the marketing department. By successfully differentiating a product, the marketing team can both increase the demand for that product and also "steepen" the demand curve. This will increase the firm's ability to charge higher prices and earn higher profits—a principle you will learn more about in the lecture on managerial economics.

As to how marketers go about increasing product differentiation, there are several ways beyond simple advertising. One of the most important ways is that of building customer loyalty.

Customer loyalty means more than simply liking one product more than another. It also means that customers will be reluctant to patronize your competitors. Indeed, your most loyal customers will continue to buy your product even if competitors lower prices.

One way to build customer loyalty is to develop a clear, distinctive image for your offering and then consistently reinforce that image through marketing activities. Positioning is a very important marketing tool to achieve these goals.

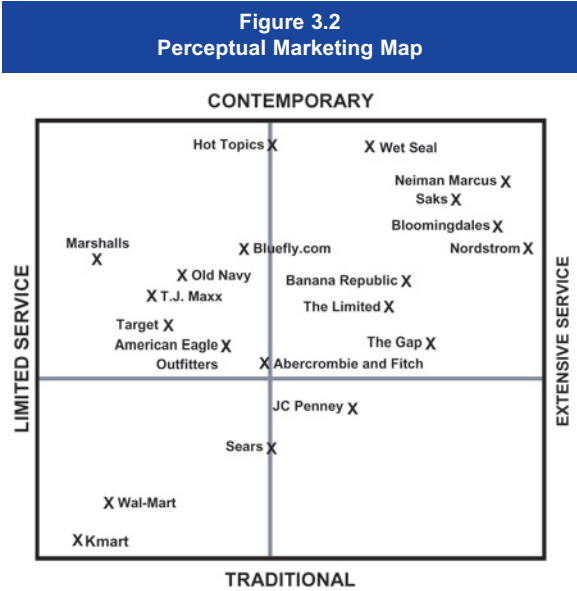
Positioning involves the design and implementation of a marketing program to create an image for the firm and its offering relative to its competitors. Such positioning emphasizes that the image in the customer's mind—not the manager's mind—is the critical one. Accordingly, marketers must research what the organization's image is and make sure this image is consistent with what customers in its target markets want.

One useful tool used in this process is the perceptual map featured in Figure 3.2. This figure provides a hypothetical perceptual map of the

women’s apparel market in Washington, D.C. In fact, such maps are frequently used by marketers to represent the customer’s image of, and preference for, competing brands in a target market.

In Figure 3.2, each of the retailers—from Old Navy and T.J. Maxx to American Eagle and Saks—compete in two dimensions. One dimension represents the amount of customer service. For example, companies like K-Mart and Target rate very low on the service scale, while Nordstrom’s is almost off the chart on the high service end.

The second dimension captures style. In the figure, retailers like Hot Topics and Wet Seal provide the most contemporary fashions, while companies like Sears and J.C. Penney sell more on the traditional end.



Step Three: Marketing Program

Having formulated the marketing strategy, it is time to design the marketing program. This program consists of a set of decisions regarding the famous “4 Ps” of marketing—product, promotion, place, and price. We will now consider each of these variables in the so-called marketing mix.

The first P is product, and product variable decisions run the gamut from the actual design of the product and fine-tuning the marketing effort through a product’s “life cycle” to nurturing brand equity, launching new products as brand or category extensions, and appropriately packaging the product for both functionality and attractiveness.

One key product variable decision involves the all-important issue of packaging. Packaging not only has to contain and protect the product until the consumer chooses to use it, packaging also plays a very important in-store communication function via its labeling, shape, functionality, and other package information. And, of course, at its best, clever and innovative packaging can add considerably to the value of the product by facilitating its use—just think about squeeze ketchup bottles or pop-up tissue boxes.

The second P in the marketing mix is promotion. This consists of five inter-related tools known collectively as the promotional mix. These five tools include advertising, sales promotion, public relations, personal selling, and direct marketing.

Advertising refers to paid media insertions in mass media, such as television, radio, newspapers, magazines, the yellow pages, outdoor billboards, and the Internet. Of course, one of the major goals of advertising is to increase brand awareness and brand image.

Sales promotions basically come in two garden varieties. Consumer promotions include such tools as coupons, sampling, premiums, rebates, and sweepstakes. In contrast, trade promotions encompass everything from sales contests and trade shows to allowances and cooperative advertising.

As for public relations, this is the firm's attempt to manage the publicity it receives in the media. Unlike advertising, publicity cannot be "bought" or controlled directly. However, neither is it free. Indeed, good publicity often is the result of a concerted effort by the firm in the form of press releases, special events, and the like, to influence the nature of the publicity received by the firm.

The fourth promotional tool—personal selling—involves both face-to-face and telephone interactions between a paid representative of the firm and a prospective customer. Such personal selling is truly the "backbone" of the promotional mix, with millions of people and billions of dollars devoted to it annually by firms of all sizes and in all industries.

Finally, direct marketing refers to promotional approaches that entail direct contact with prospective customers in their homes or workplace. The three most common forms are direct mail, telemarketing, and e-mail. Of course, "junk mail," telemarketing, and "spam" are among the most despised forms of promotion. Nevertheless, direct marketing remains a popular promotional mechanism because (a) it is effective, if managed correctly, and (b) its results are easily measured.

Now what about the third P, place? This element of the marketing mix derives its label quite literally from the "place" where consumers purchase (and possibly consume) the product or service. Two key concepts related to the place decision include the channel of distribution and the channel value-add.

The various business and consumer channels of distribution feature both direct and indirect channels. Indirect channels relate to the use of marketing intermediaries like distributors, wholesalers, and retailers. On the other hand, when a company like Dell sells directly to end-users—for example, via its website—it is referred to as a direct channel.

As to which channels are most effective, here's just a bit of what we know: Consumer goods manufacturers most often utilize indirect channels because it is inefficient to deal with millions of individual consumers. Instead, distributors and retailers provide the desired market coverage.

In contrast, business-to-business marketers often interact directly with their customers via the company sales force. In this vein, smaller manufacturers that cannot afford to maintain their own sales force use manufacturers' representatives, which is another form of a marketing intermediary.

A second key concept in the place decision is that of "value-add." The old view of the channel was a "pipeline" metaphor, where the producer dumped product into one end of the pipe, and the same product dropped out of the other end into the hands of the consumer.

The new emergent metaphor is that of a value-add chain, wherein each channel member adds value to the product in some fashion. Most often, the value-add rests in the services each of the channel members “wrap around” the physical product. In this regard, the channel is seen as creating time value, place value, or form value.

For example, a twenty-four-hour convenience store creates time value by being open at any time the consumer desires to make a purchase. Similarly, fast food purveyors create place value by having multiple locations on heavily traveled streets.

As for form value, it is created when a channel member alters the product in some way. For example, a mountain bike manufacturer might ship unassembled bicycle components to a carefully selected dealer network. The dealers are then responsible for proper assembly of the bikes, thus offering more value to customers who would rather not assemble the bikes themselves.

We turn now to the final element of the marketing mix, price. Price very effectively measures what the consumer gives up in exchange for all the benefits received from a product or service. Indeed, the fundamental role of price is to capture the value of the product in the mind of the consumer.

In setting prices, the marketer may choose from a wide variety of pricing approaches. For example, cost-based pricing approaches such as cost-plus and standard markup pricing focus internally on the firm's cost structure to ensure that the price charged covers all fixed and variable costs of producing and selling the product. In contrast, profit-based approaches such as target pricing extend the cost-based logic to incorporate a desired dollar amount or percent return on investment.

Still a third approach is that of value-based pricing. The value-based process begins with research to determine the value-in-use of the product to the consumer. That value can then be benchmarked against the value-in-use of competing products to arrive at an appropriate price.

Consider, for example, one marketing team's assessment of a new extruded wooden beam composed of scrap lumber and a super-adhesive blended under very high pressure. This team fiercely debated whether to discontinue the project due to high production costs under the implicit assumption that the new product would have to be priced at or below the price of regular lumber.

However, in the beta-site testing of the product, the marketing team learned that the extruded beams were not only much stronger than standard lumber, but also more amenable to the large spans required in factories and warehouses. Because of the higher value of the new product relative to lumber, as perceived by potential customers, the marketing team was able to set a higher price, making the project viable in terms of projected profitability.

Step Four: Building and Managing Mutually Beneficial Relationships

The last step in the marketing management process is building and managing relationships. Historically, a major marketing goal has been to increase the customer base. In this approach, salespeople continually prospect for new customers, and advertising is designed to make customers aware of the firm's products and services and then buy them.

Today, however, firms are increasingly directing their marketing activities toward another goal altogether. This is the building and maintaining of long-term relationships not just with their key customers but also with their channel members.

For example, Procter & Gamble now has sales teams located at the headquarters of major customers like Walmart and Kroger. These teams are dedicated to finding ways that P&G can work more effectively with its retailers to increase sales and profits for both parties.

This change in perspective from building the customer base to building and managing relationships is supported by an important research finding: It can cost as much as six times more to sell products and services to new customers than existing customers. Moreover, small increases in customer retention can lead to dramatic increases in profits. That's why firms are beginning to concentrate on providing more value and generating more sales from their best customers rather than continually seeking new ones.

In this new relationship-building paradigm, the goal of marketing programs has shifted from the old yardstick of market share to the new metric of share of wallet. This is defined as the percent of the customer's purchases in the firm's product or service categories. In fact, this focus on building relationships has important strategic implications.

For example, strong buyer-seller relationships enable firms to achieve differential advantages in the marketplace by working together to improve the offering to the ultimate customer. The advantages created through these relationships are, in turn, sustainable because the activities engaged in by the firms, as they work together, are hard for competitors to understand and difficult to duplicate.

Lecture 4: Operations and Supply Chain Management: Getting the Stuff Out the Door

The **Suggested Reading** for this lecture is Steven Nahmias's *Production and Operations Analysis*.

In a world of intense global competition, companies are finding it increasingly difficult to exert any pricing power. As a result, many business executives have discovered that the best way to boost the bottom line is through better operations management, specifically by cutting costs through more efficient operations and supply chain management.

But a funny thing has happened on the road to this more aggressive “operations strategy.” Many business executives have discovered that such a strategy not only helps cut costs. It can also improve customer satisfaction and thereby boost demand and revenues as well.

Both Kmart and Walmart were born in the same year—1986. But their CEOs—one flamboyant, the other shy and shunning publicity—each walked a very different path.

On the one hand, Kmart's Joseph Antonini believed the road to success lay in a sleek marketing campaign populated with celebrity pitchmen. He supplemented this marketing glitz with an aggressive acquisition and diversification campaign.

On the other hand, Walmart's Sam Walton was almost obsessed with operations and supply chain efficiency. He poured tens of millions of dollars into a company-wide computer system linking cash registers to headquarters. This enabled him to quickly restock goods selling off Walmart's shelves. He also invested heavily in trucks and distribution centers to enhance his control and thereby cut costs.

For a while, the Kmart hare ran circles around the Walmart tortoise. Within just a few years, Kmart became a household name, whereas Walmart was virtually unknown outside rural pockets of the Deep South. Even more to the point, by 1987, Kmart's sales were almost twice that of Walmart.

Eventually, however, Sam Walton's operations and supply chain management strategies overcame Antonini's marketing pizzazz. By the 1990s, while the blue-lit aisles of Kmart began to fill with distribution horror stories, Walmart's incredibly sophisticated distribution inventory and scanner systems meant that customers NEVER encountered depleted shelves or price-check delays. Perhaps not surprisingly, by 1994, Walmart's annual sales almost tripled that of Kmart—and the rest is, as they say, history.

The point of this story is not that marketing doesn't matter. Of course, it does. Rather, it is that a comprehensive operations strategy can also be an effective marketing tool.

So just what does an aggressive operations strategy really entail? Figure 4.1 and Figure 4.2 provide an overview of the major ingredients of such a strategy. From these figures, you will see that the big questions of operations management span eight decision areas that run the gamut from aggregate planning and the management of inventories, production, and the broader supply chain, to the scheduling of operations and projects, the layout and locating of facilities, and the ensuring of both quality and reliability. By the same token, the key concepts in this lecture range from mathematical tools like optimization and engineering concepts like “bottlenecks” and the “explosion calculus” to a virtual alphabet soup of operations models—from EOQ and JIT to MRP and PERT.

Aggregate Planning

As people go through life, they make both micro and macro decisions. Micro decisions might be what to eat for breakfast, what route to take to work, what auto service to use, or which movie to rent. Macro decisions are the kind that change the course of people’s lives: where they will live, which job they will take, and who they will marry.

Business executives must also make both micro and macro decisions every day. For example, in the operations planning context, one macro level decision is determining the quantity and mix of the products actually produced. Another such macro decision concerns the size and appropriate staffing levels of the workforce.

Such macro planning necessarily begins with the forecasts of sales. Historically, this type of macro planning in operations is known as aggregate planning, since the goal is to determine the size of the workforce and the production levels for the firm or one of its divisions or factories.

In fact, a wide variety of aggregate planning models exist in operations management, but they all share one thing in common. They are based on some form of optimization. As discussed in the last lecture on statistics, optimization requires an objective, which in business is almost always either minimizing cost or maximizing profit; and the purpose of aggregate planning is to minimize at least four different kinds of costs.

The different kinds of costs firms seek to minimize include smoothing costs, holding costs, opportunity costs, and shortage costs.

Smoothing costs arise when you have to change either your production or workforce levels as demand or inventory needs change, while holding costs can be measured by the so-called opportunity costs of any funds you have invested in excess inventory. But note that if you are caught short of inventory, you can experience another type of cost known as shortage costs. These are the costs associated with back-ordered or lost demand. So one of the most important tasks of aggregate planning is to balance holding costs against shortage costs, that is, to optimize.

More Big Questions

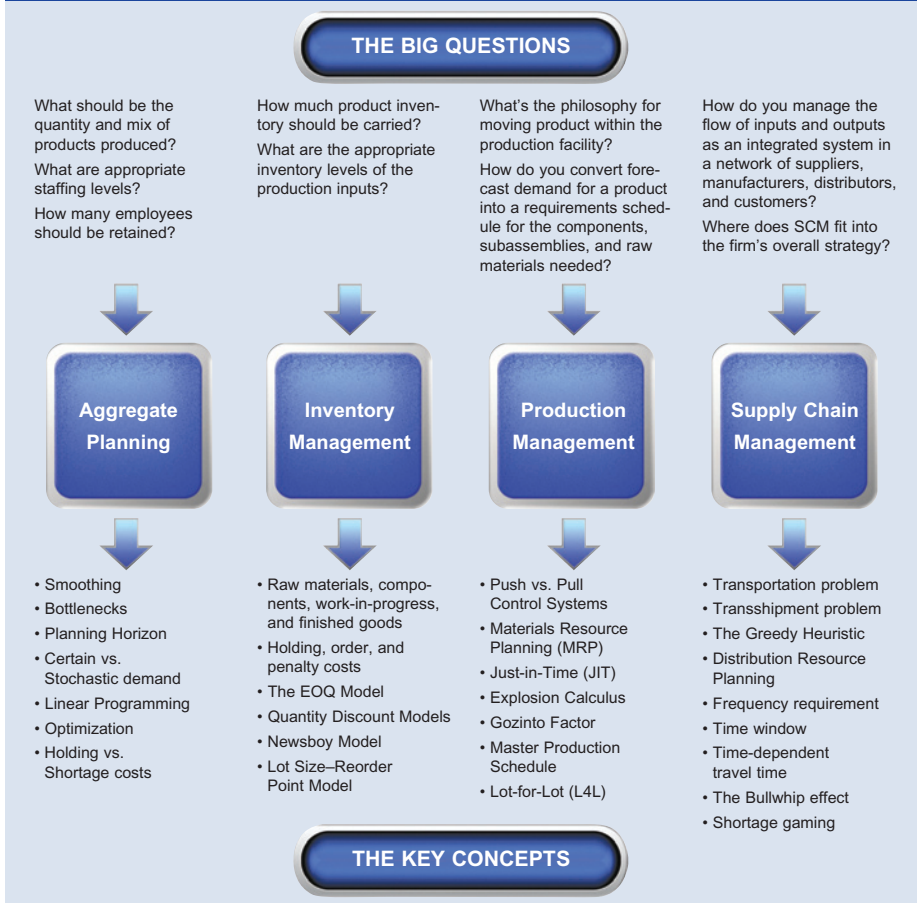
The second set of big questions deals with inventory management: How much product inventory should be carried? And what are the appropriate inventory levels of the production inputs?

In approaching these questions, please note that the investment in inventories among the countries in the global economy is truly staggering—on the order of \$1.5 trillion in the United States alone. That’s precisely why inventory control can have a huge impact on the efficiency of any economy.

To really get a handle on the inventory problem, one has to identify the four different types of inventories that companies may have to carry. By recognizing the different types of inventories, one can come to understand that not all inventories serve the same function and therefore that different types of inventory levels must be modeled differently.

For starters, in a manufacturing plant, there are the raw materials required for production or processing. There also may be components such as sub-assemblies that will later be included in a final product.

Figure 4.1
Operations and Supply Chain Management Strategies



A third type of inventory is work-in-progress. These are inventories that in the plant are waiting to be processed. Finally, there are the all-important finished goods—the produced products waiting to be shipped out.

One of the core ideas of efficient operations is to minimize the costs associated with inventories. To look at a company that has taken this idea to a highly profitable extreme, we need look no farther than Dell, Inc.

Dell recognized early on that the central processor is really the computer, and its power determines the power of the PC. In the PC marketplace, Intel has been a leader in designing every new generation of processor chip, and each new generation of microprocessors that Intel has led the market with renders the old technology obsolete. Because these new chips come out every year or so, computers and computer components have a relatively short life span. Moreover, as new chips are being developed at an ever-increasing pace, the obsolescence problem for PCs is becoming even more critical.

So what has been Dell's solution to being stuck with any obsolete PC inventory? It is both simple and elegant: Don't keep any product inventory. How does Dell do this? It only builds PCs on a made-to-order basis.

There is an obvious question that arises in the wake of Dell's success: Why are companies around the globe holding trillions of dollars of inventories? This is where the inventory story gets really interesting, because there are some rational motivations for holding inventory.

For starters, there are economies of scale that make it is less costly to order or produce in large batches than in small batches.

Second, there are a variety of uncertainties. These include demand uncertainty, lead time uncertainty, and supply uncertainty. Each of these types of uncertainty create incentives for holding inventory.

Third, there is simple speculation. The idea here is that you may want to hold more inventories of, say, a raw material like copper or palladium, because you believe the prices of these materials are going to rise.

Fourth, at any one time, your company may also be holding transportation inventories. These are simply the pipeline inventories that are in transit from one location to another.

Finally, you may also want to hold smoothing inventories to quite literally smooth out an irregular demand pattern.

In the optimization problem that determines the optimal level of inventories, there are a number of the major costs that must be considered in the modeling effort. On the one hand, and as an argument against holding inventories, there are holding costs that range from the opportunity cost of lost investment revenue and physical storage costs to higher insurance premiums, breakage and pilferage, and obsolescence.

On the other hand, and as an argument for holding more inventories, there are order costs. These generally consist of two components: a fixed component and a variable component. The fixed component typically involves the setting up for a production run. The variable component is a unit cost paid for each unit ordered or produced.

In the same vein, there are also penalty costs that are incurred when demand exceeds supply. In such cases, excess demand may be back ordered (to be filled at a later time)—thus creating a lot of costly paperwork. Alternatively, the demand may be lost completely—along with the profits you may have earned from fulfilling that demand. Either way—backorders or lost demand—your company also risks losing customer goodwill.

So how do business executives determine the optimal level of inventories to hold? In fact, there are quite literally thousands of mathematical models companies can use. But the good news here is that virtually all are related in some way to the granddaddy of all inventory control models: the EOQ model.

EOQ stands for “economic order quantity,” and the model was first derived by Ford Harris, a young engineer with the Westinghouse Corporation in Pittsburgh, Pennsylvania, back in the early 1900s. This simple model treats the basic trade-off between the fixed or set-up costs of ordering and the variable cost of holding the inventories. Basically, the model says that the amount of inventories your firm is going to want to hold are going to go down as holding costs rise.

That said, more sophisticated inventory models also take into account risk and uncertainty, and these models go by a variety of names that include the newsboy model mentioned in the last lecture, the quantity discount model, and the lot-size-reorder point model.

The third set of big questions is in the area of production management: What should be your philosophy for moving product within the production facility? And how do you convert forecast demand for a product into a requirements schedule for the components, subassemblies, and raw materials needed?

In fact, there are two fundamentally different philosophies business executives can adopt for managing the flow of goods in the factory—push vs. pull.

A push control system such as Materials Requirements Planning (or MRP) is one in which production planning is done for all levels in advance. MRP is based on forecasts for the final products (or “end items”) over a specified planning horizon. Using MRP, executives and managers can determine production quantities not just for the end items but for all the other components and sub-assemblies at each level of the system; and once production is completed at one level, units are literally pushed to the next level.

In contrast, a pull system such as Just In Time is one in which items are moved from one level to the next only when requested. The just-in-time philosophy grew out of the Kanban system developed by Toyota, and Kanban is the Japanese word for the posting board used to keep track of the flow of manufactured items.

The Kanban system controls the flow of goods in the plant by using a variety of different kinds of cards, each of which is attached to a palette of goods. What made Kanban so successful at Toyota was that it reduced changeover times for different automobile models from several hours to several minutes.

The fourth set of big questions involve supply chain management. Improving relationships with vendors, outsourcing of manufacturing, and opening up

new channels of distribution are just a few of the ways firms are using supply chain management to gain a competitive edge.

The actual term “supply chain management” dates back to the late 1980s, and both software and consulting firms specializing in supply chain management solutions are now commonplace. These companies have grown at a remarkable rate and include giants like SAP and Oracle.

What makes SCM systems so powerful is that they are able to look at managing the flow of goods as an integrated system. In the supply chain, the primary strategic trade-off is between cost and response time. Managers, for example, must choose between rapid and more costly air transport and the slower and cheaper boat or truck delivery.

In a similar vein, managers must ask whether deliveries will be more reliable if the product is moved using the firm’s internal system or a third party.

The following are the two big questions of operations scheduling: How do you sequence production activities on the shop floor? How do you determine whether to meet peak demand with overtime or night shifts or subcontracting? These are questions that can be resolved by looking at the particular issue of job shop scheduling.

Job shop scheduling is often referred to as sequence scheduling, and it is the most common scheduling problem in the factory. Basically, a job shop is a set of machines and workers to operate the machines. Jobs may arrive all at once or randomly throughout the day.

To see this, consider an automotive repair facility. On any given day, one cannot predict in advance exactly what kinds of repairs will come to the shop, while different jobs require different equipment and possibly different personnel. For example, a senior mechanic would be assigned to a complex job, such as a transmission replacement, while a junior mechanic would be assigned to routine maintenance.

Suppose, now, that all customers bring their cars into the shop first thing in the morning. The shop foreman must determine the sequence to schedule the jobs to make the most efficient use of both the people and machines available. Some of the relevant characteristics of the sequencing problem therefore include the pattern of arrivals, the number and variety of machines, and the number and types of workers.

So how does one go about the business of solving the job shop scheduling problem? There are at least four possible rules to choose from.

FCFS stands for first-come, first-served. With this rule, you simply schedule jobs in the order they arrive to the shop. In contrast, SPT stands for shortest processing time first. You schedule the next job with the shortest processing time. Alternatively, there is EDD—the earliest due date. Here, you schedule the jobs that have the earliest due date first. Finally, there is the more complicated Critical Ratio Scheduling. This type of scheduling is more complicated because you must first calculate the critical ratio by subtracting the current time from the due date and then dividing by the processing time. Once you’ve done this, you schedule the job with the smallest CR value next.

So how do you go about evaluating the desirability of each of these rules? One common criterion is mean flow time.

The flow time of any job is the amount of time that elapses from the point that the job arrives in the shop to the point that the job is completed. The mean flow time is just the average of all the flow times for all the jobs. An important result is that shortest processing time first scheduling minimizes the mean flow time. Another result of interest is that if the objective is to minimize the maximum lateness, then the jobs should be scheduled by earliest due date.

How do you build large and complex projects most efficiently? The three small questions embedded in this big question include the following:

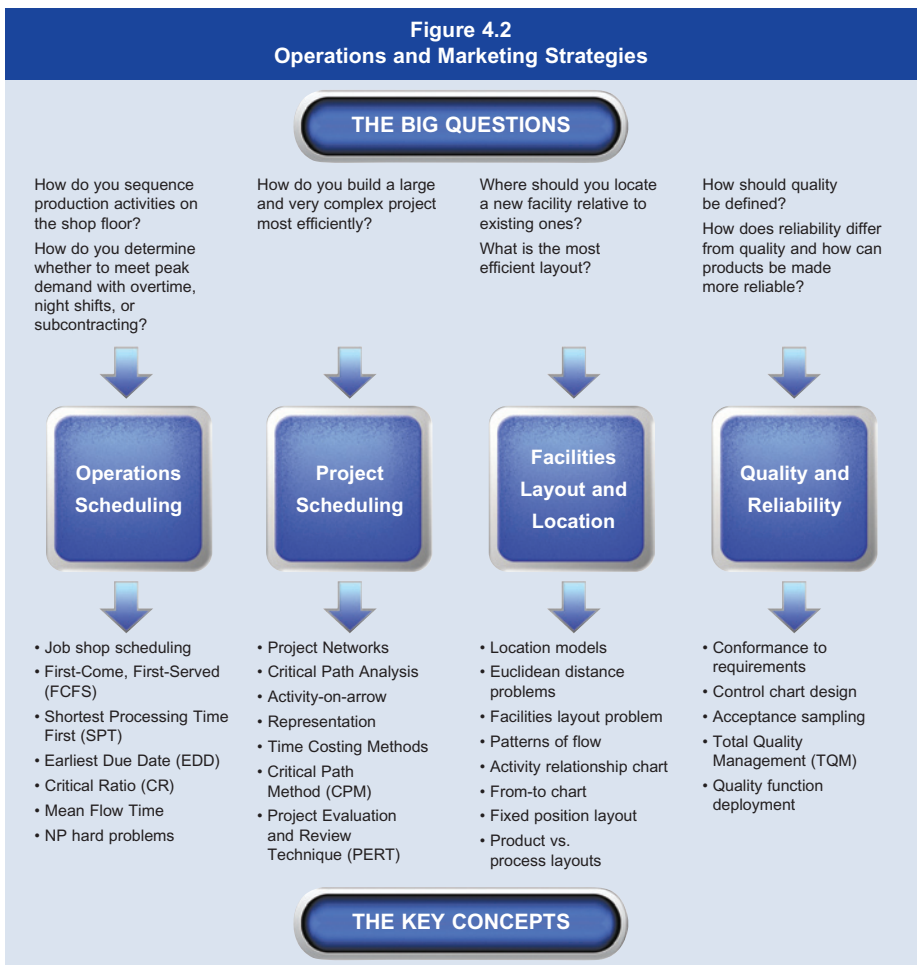
What is the minimum time required to complete the project?

What are the starting and ending times for each of the activities? And perhaps most importantly:

Which activities can be delayed without delaying the project?

One method used to answer these questions is the Critical Path Method. What drives this method is the observation that activities not along the critical

Figure 4.2
Operations and Marketing Strategies



path have slack time—that is, they can be delayed without necessarily delaying the project.

To see how this Critical Path Method might work, consider a typical construction project. Each additional day that elapses results in higher costs. These costs include direct labor costs for the personnel involved in the project, costs associated with equipment and material usage, and overhead costs.

Let's suppose now that you have the option of decreasing the time of selected activities, but also at some cost. As the times required for activities along the critical path are decreased, the expediting costs increase but the costs proportional to the project time decrease. Hence, there is some optimal time for the project that balances these two competing costs.

Now here is our next set of big questions: Where should you locate new facilities, particularly relative to existing ones? And what is the most efficient layout for your new facilities? These are big questions not just for business entities but also for the military, nonprofit institutions, and government.

Where to locate a new facility is a complex and strategically important problem. Hospitals need to be close to high-density population centers. Airports need to be near large cities—but not too near to cause noise pollution. And so on.

In a more global context, new factories are often located outside the United States to take advantage of the lower labor costs overseas. But these savings often come at a high price. Political instability, unfavorable exchange rates, infrastructure deficiencies, and long lead times are just a few of the problems that can arise from locating facilities abroad. Often such decisions are more strategic than tactical and require careful weighing of the advantages and disadvantages at the level of top management.

As for the layout decision, the objectives of a plant layout study might include just some of the following: (1) minimize the investment required in the new equipment and the time required for production, (2) use existing space most efficiently, (3) provide for worker convenience, safety, and comfort, and (4) minimize the materials handling costs. A key concept in determining a suitable layout is that of patterns of flow.

The simplest pattern is the straight line flow, as might be encountered on an assembly line. Its main disadvantage is that separate docks and personnel are required for receiving and shipping goods—while the U-shape flow has the advantage over the straight line of allowing shipping and receiving to be at the same location.

Another design layout issue is whether to locate operations near each other. For example, in a hospital, the emergency room must be near the hospital entrance, and the maternity ward should be close to the area where premature babies are cared for. These considerations are handled in operations management by an activity relationship chart, or “rel chart” for short.

More broadly, in a factory setting, the appropriate type of layout depends on the manufacturing environment and the characteristics of the product. A fixed position layout is appropriate when building large items such as planes or ships that are difficult and costly to move. Workstations are located around

the object, which remains stationary. More typical is the product layout, where machines or workstations are organized around the sequence of operations required to produce the product, and product layouts are most typical for mass production.

The final set of big questions concerns quality and reliability. As for how to monitor quality in a manufacturing context, there are a number of statistical methods available to operations managers. One such method is the statistical control chart, which provides a means of monitoring a process, and the related key concept of acceptance sampling.

Acceptance sampling occurs after lots of items are actually produced. Such acceptance sampling can be performed either by the manufacturer or by the consumer. In most cases, 100 percent inspection of items is impractical, impossible, or too costly. For these reasons, a more common approach is to sample a subset of the lot and choose to accept or reject the lot based on the results of the sampling.

A second, more far-reaching approach to quality is embedded in a term you've no doubt heard about—total quality management, or TQM. Briefly, this is the complete commitment of all parts of the firm to the quality mission.

Moving from quality to reliability, we inevitably must turn to Japan. When people think of Japan's economic success, it is the automobile industry that most think of. But why have companies like Toyota and Honda been so successful at grabbing market share from the likes of GM and Ford? Perceived product quality is probably the key reason that so many Americans choose to buy Japanese cars. But what dimension of quality is the most important? The most likely answer to that question—strongly suggested by annual consumer surveys—is the reliability of Japanese cars.

Reliability considers the performance of a product over time. The random variables of interest in this dimension concern the amount of the elapsed time between failures. In fact, three of the most significant disasters of recent times—the nuclear disasters at Three Mile Island and Chernobyl and the dramatic loss of the *Challenger* space shuttle—were the result of reliability failures.

As for how one goes about the business of modeling reliability, there are a number of important tools available to operations managers. Those that are regularly taught in the MBA classroom include maintenance models, age replacement strategies, reliability functions, and the Poisson process, just to name a few.

The bigger picture here, however, is that solid reliability studies allow business executives and managers to establish the most efficient preventive maintenance and planned replacement programs. They also allow executives to analyze and profitably market a wide variety of warranty programs. And these are just a few more ways that a careful study and mastery of operations management can contribute to the bottom line.

Lecture 5: Financial Accounting: “Doing the Numbers” for Investors, Regulators, and Other External Users

The **Suggested Reading** for this lecture is Robert Libby, Patricia Libby, and Daniel G. Short’s *Financial Accounting with Annual Report*.

Far too often business executives think of accounting as a superfluous activity designed to satisfy bean counters, bureaucrats, or regulators at the expense of focusing on broader goals. However, as will be shown in the next two lectures, accounting is an extremely useful and important language. Figure 5.1 provides an overview of the big questions and key concepts in financial accounting.

**Figure 5.1
Financial Accounting**



Financial accounting is concerned with the preparation and use of three overall financial statements that regulatory authorities require of most organizations. These are the balance sheet, income statement, and statement of cash flows.

In contrast, managerial accounting focuses on the costs of products and services and how executives can use those costs for budgeting, cost analysis for profit planning, management control of resources and the cost structure of the firm, and so-called performance reporting for managerial and employee accountability.

This particular lecture on financial accounting focuses on how investors, analysts, lenders, customers, and other interested parties *external* to the organization can use the tools and concepts of accounting to further their goals. The next lecture on managerial accounting shows how business executives can use accounting information *internally* to achieve both tactical and strategic advantage.

The Balance Sheet, Income Statement, and Statement of Cash Flows

The three key financial statements are the balance sheet, the income statement, and the statement of cash flows.

The balance sheet provides a “snapshot” of a company’s financial position at a given point in time. Table 5.1 provides a simplified balance sheet for the fictional future technology company Sisco Systems. Please note its two-column structure, with assets in the left column and both liabilities and equity in the right column.

What’s important about this table is that it is based on the fundamental accounting equation, which states that total assets must equal the total of a company’s liabilities plus its shareholder equity. This is known as the dual-aspect concept, and the balance sheet must always maintain this equality.

This observation, in turn, means that every accounting transaction affects at least two items and preserves the basic equation. That’s why accounting is a double-entry system. If one side of the balance sheet is increased, either the other side must be increased too, or the first side must contain an offsetting decrease.

So just what are the kinds of assets a company like Sisco might have? There are current assets such as cash in the bank. There are accounts receivable, which is the money owed to the firm by buyers. There are the firm’s inventories being held in the warehouse for sale. And there are any marketable securities like stocks or bonds held by the firm.

In addition, the assets of a company may also include noncurrent assets, ranging from property, plant, and equipment like factories, office buildings and furniture to the intangible assets contained in such things as patented technologies and the goodwill and brand equity that a company builds up through its marketing efforts.

Now what about the liability side of the equation. By similar construction, the current liabilities of a company include the money it owes to its vendors and banks in the form of accounts payable and bank loans payable. Liabilities also include things like accrued tax liabilities. These are the sales and income and other taxes the company owes the government.

Note that current liabilities are only those due in the next accounting period. As for the noncurrent liabilities and equity, these reflect the sources of funds used to acquire such assets; and as you will learn in the lecture on corporate finance, the two primary sources of funds for a company are debt and equity, where debt is money borrowed at a specified interest rate and equity comes about by selling stock shares to investors. These equity holders or shareholders are, in effect, the owners of the firm. As for retained earnings, these result from the entity's profitable operations over time and are not to be confused with cash.

Taking a Big Picture view of the balance sheet, ratios like the debt-to-equity ratio and current ratio are two of the most important in both accounting and finance because they are important measures of a company's risk and liquidity. Why is this so?

By law, creditors and lenders have a much stronger claim on the company's assets than shareholders in the case that troubles with a company arise. In

Table 5.1
Simplified Balance Sheet

SISCO SYSTEMS BALANCE SHEETS			
As of 31 December 2007 and 2008			
	2007		2008
Assets			
Current Assets:			
Cash and cash equivalents	\$	6,000	\$ 11,000
Marketable securities		70,000	74,300
Accounts receivable, net		32,000	31,000
Inventories		13,000	14,700
Total Current Assets		\$121,000	\$131,000
Property, plant, and equipment		100,000	115,000
Accumulated depreciation	(30,000)	70,000	(35,000) 80,000
Goodwill		3,000	4,000
Intangible assets		7,000	8,500
Total Assets		\$201,000	\$223,500
Liabilities and Stockholders' Equity			
Current Liabilities:			
Accounts payable	\$	3,000	\$ 6,300
Accrued compensation/wages payable		2,000	2,400
Accrued income taxes		5,000	6,800
Current portion of long-term debt		10,000	10,000
Total Current Liabilities		\$ 20,000	\$ 25,500
Long-term Debt		81,000	71,000
Total Liabilities		\$101,000	\$ 96,500
Stockholders' Equity:			
Common stock and paid-in capital		60,000	71,000
Retained Earnings		40,000	56,000
Total Stockholders' Equity		\$100,000	\$127,000
Total Liabilities and Stockholders' Equity		\$201,000	\$223,500

particular, creditors and lenders can sue if the amounts due them are not paid, and they are first in line (behind only the IRS) when it comes to recovering money from the firm. In contrast, equity investors have only a residual claim—meaning that they can only get back their money *after* the creditors have been paid. That’s why, as we have just indicated, equity is generally more risky than debt.

One final point about the balance sheet: The balance sheet is a set of permanent accounts. That is, the balance at the end of one accounting period is quite literally the balance at the start of the next one. This means that the balance sheet accounts *never* revert to zero simply because it is the end of the accounting period. This, in turn, means that you can’t really know how things have changed from the last accounting period to the current one just by looking at the balance sheet.

Because the balance sheet lacks such detail, you also don’t know what operating activities might have given rise to those changes. Indeed, even if you had two balance sheets, one for the end of each of two accounting periods, you would still be in the dark without a summary of the operating activities. That’s where the income statement comes in. It is in the income statement that investors and other external users of the data can find the necessary detail to evaluate performance. This is because the income statement summarizes the operating activities, albeit without regard to the associated flows of cash, for an accounting period.

The income statement provides a summary of a company’s earnings for a period of time. It is important because net income is the primary determinant of an organization’s cash flows and therefore the value of its stock. The key equation to remember for the income statement is that $\text{Net Income} = \text{Sales Revenues} - \text{Expenses}$.

Table 5.2 provides a simplified income statement for the aforementioned Sisco. It’s useful to think about the income statement as a set of temporary accounts that begin at the start of the accounting period and revert to zero at the end of the period. The income statement summarizes only the activities of one accounting period, that is, the activities that take place between two balance sheets. These accounts are in the form of revenues, which provide the sources of resources, and the expenses, which document the consumption of firm resources.

Note, however, that although you can get information about

Table 5.2
Simplified Income Statement

SISCO SYSTEMS INCOME STATEMENT	
For the year ended 31 December 2008	
Revenue	\$56,000
Operating expenses:	
Cost of Sales	10,000
Research and Development	6,000
Depreciation and Amortization	5,000
Sales and Marketing	8,000
General and Administrative	3,000
Total Operating Expenses	\$32,000
Operating Income	\$24,000
Provision for Income Taxes	8,000
Net Income	\$16,000

the operating activities of the firm in the form of revenues and expenses from the income statement, you cannot determine anything about the actual flows of cash into or out of the organization. That's where the third major financial statement comes in: the statement of cash flows.

As with the income statement, the statement of cash flows is a summary for a period of time. Table 5.3 provides a simplified version of the statement of cash flows of Sisco Systems. This statement documents the “sources and uses” of cash during the accounting period. Since the statement of cash flows is used to explain the change in the cash account from one balance sheet to the next—“Where did cash come from and where it go?”—it is essentially a summary of the changes in every balance sheet account except cash. This link to the other financial statements makes it a valuable statement. It’s construction, however, is the least intuitive of the financial statements.

Note that the statement of cash flow has three sections. The cash flow from operating activities represents the sources of cash for an organization generated by its own operating activities. The cash flow from investing activities includes the acquisition of new fixed assets and the proceeds of selling fixed

Table 5.3
Simplified Statement of Cash Flows

SISCO SYSTEMS INCOME STATEMENT	
For the year 2008	
Cash Flow from Operating Activities:	
Net Income	\$ 16,000
Depreciation, amortization, and other noncash items	5,000
Marketable securities	(4,300)
Accounts receivable	1,000
Inventories	(1,700)
Accounts payable	3,300
Accrued compensation	400
Income taxes	1,800
Net Cash Flow from Operations	\$ 21,500
Cash Flow from Financing Activities:	
Common stock issued	\$ 11,000
Repayment of long-term debt	(10,000)
Net Cash Flow from Financing Activities	\$ 1,000
Cash Flow from Investing Activities:	
Additions to property, plant, and equipment	\$(15,000)
Change in goodwill	(1,000)
Change in intangible assets	(1,500)
Net Cash Flow from Investing Activities	\$(17,500)
Net change in cash and cash equivalents	\$ 5,000

assets. Finally, the cash flow from financing activities includes the funds obtained from long-term borrowing, repayment of the loans, and obtaining funds from the issuance of additional stock.

Different sources of cash flow can paint very different pictures of a company's fortunes. If, for instance, cash flow increases because of increased sales, that's a very good sign for potential investors. However, a cash flow increase that results from the sale of valuable assets may indicate that the company is in trouble and needs cash to pay some of its bills and interest payments on its debt. The statement of cash flows helps investors and other external users of an organization's data sort all of this out.

Perhaps because it is the most complex of the three statements to understand, many MBA accounting courses do not give the statement of cash flows enough attention. That is unfortunate because in periods of growth or financial crisis, the external users of a company's financial statements may pay far more attention to the statement of cash flows than to the income statement.

Accounting Issues

Let's turn now to one of the biggest issues addressed in this lecture: How can the three major financial statements be used to answer important questions posed by investors, creditors, and other external users of the data? To set the stage for this discussion of financial statement analysis, an important distinction can be drawn between accounting issues and financial management issues.

Accounting issues have to do with the accuracy and truthfulness of the accounting data as they appear on the financial statements. To use financial statement data in a subsequent analysis, a user must have faith in them. It's not just that an organization may actually provide false numbers or hide data. While that certainly has happened with companies as well-known as Enron, HealthSouth, Qwest Communications, and WorldCom, this falsifying or hiding of data tends to be far more the exception than the rule. A more likely scenario arises when companies try to simply bend, rather than break, accounting rules or otherwise engage in so-called aggressive accounting.

For example, a company might try to record revenues too soon or even book bogus revenues. It might similarly try to boost income with one-time gains or shift current expenses to a latter period.

A more subtle and potentially equally important issue has to do with whether the numbers reported are based on "hard numbers" or, alternatively, estimates. In particular, it's important to look carefully at any large numbers in a report and ask the question: "Which of these may have been influenced by estimation?" In addition, it's important to examine the nature of the liabilities and whether they are to be settled by an outflow of cash or by providing a product or service owed to a customer.

More generally, it's useful to examine the data to determine the so-called quality of earnings, which has been defined as "increased earnings due to increased sales and cost controls, as compared to artificial profits created by inflation of inventory or other asset prices." And as a final caveat, it's important to look at the Notes to the Financial Statements for any red flags or clues to irregularities.

Financial Statement Analysis

Perhaps the most important use of financial accounting data is financial statement analysis. The major financial management issues such data help shed light on are (1) profitability, (2) liquidity, (3) financial structure and leverage, (4) asset management, and (5) sustainability.

In general, for most of these financial management issues, there are one or more ratios that can be used as shorthand measures for the relevant analysis. In particular, such ratio analysis can be used to evaluate current operations, to study the efficiency and risks of operations, and to compare a company's current performance to its past performance, the performance of other companies within its industry, and the broader market.

There are three major types of ratios that can be extracted from financial statements. These include financial ratios such as those measuring liquidity and leverage, operating ratios such as those measuring activity or turnover and profitability, and valuation ratios, which assess a stock price relative to assets or earnings. Typically, the analyst will view these ratios over time to quite literally "chart" an organization's performance. This is called trend analysis.

Obviously, the profitability of a company is of paramount importance both to investors and creditors. As you will learn in the lecture on corporate finance, without profits—or the expectation of profits—there can be no dividends paid out or any stock price appreciation and therefore no earned return on investment. Nor may there be adequate funds to pay bondholders, vendors, or other creditors.

It is the income statement that is most useful in determining profitability. Most simply, if revenues are greater than the expenses of an accounting period, a profit is the result. However, there are two important ratios that are commonly used to gauge firm profit performance. These include return on assets and return on shareholder equity. In addition, investors also frequently like to look at the price/earnings ratio and the dividend yield.

Now what about liquidity? Liquidity is a fancy term for describing the firm's available cash—and ample liquidity is critical for a company to be viable. Think about it. Even though a business may be profitable, if its revenues are not turned into cash in a timely manner, it will lack "liquidity" and there will be a problem paying the bills. So the timely collection of accounts receivable, the minimization of bad debts, and the timing of accounts payable and other short-term obligations are all important.

At least three ratios are commonly used to gauge liquidity. Working capital is simply an organization's current assets minus its current liabilities. Note, however, that working capital, in and of itself, is not particularly useful unless it can be related to something else. That's why the working capital equation is typically transformed into the current ratio, which is simply current assets divided by current liabilities. Intuitively, if this ratio is too close to 1, it should be clear that an organization's current liabilities may threaten to overwhelm its ability to pay them.

A third financial management issue, closely related to the issue of liquidity, relates to the financial structure of the organization. The really important question is this: How much of a company's assets are accounted for by

shareholder equity versus debt. If a firm relies heavily on debt, it is said to be heavily leveraged.

In such cases, investors, lenders, and other external users of the financial statements will often worry that a company has taken on too much debt. This is because borrowed funds require regular interest payments, and these debt burdens can become burdensome indeed if sales decrease.

Two of the most common ratios used to measure leverage are the debt ratio (also called the leverage ratio) and the debt-to-equity ratio. These compare the amount of total liabilities to some other relevant part of the income statement or the balance sheet. In general, the greater the debt in relation to any one of these measures, the higher the company's risk and the greater the concerns over its long-term solvency.

Financial Management

In a world of increasing global competition, where price margins have been squeezed and revenues in times of recession have been stagnant or falling, the executive teams of corporations around the world have turned to efficient asset management as a way of boosting the bottom line. The basic idea behind the concept of asset management is that if you can reduce the amount of inventory or accounts receivable needed to support a given level of sales, your company can generate more cash for shareholders. This will in turn lead to a higher stock price, everything else being equal.

This asset management concept is embodied in several of the key ratios that are used to evaluate asset activity or turnover. For example, the inventory turnover ratio is found by dividing sales by inventory while the total asset turnover ratio is sales divided by total assets.

To understand just how important asset management can be in generating cash flow and earnings, one need look no farther than a comparison between Dell Computer and its leading rival Hewlett Packard. Both of these companies are in an industry in which price competition is fierce. However, during the late 1990s, Dell consistently outperformed Hewlett Packard in profitability. Many analysts attributed this success to Dell's superior business model, in which it sold its products exclusively through direct sales to consumers rather than through retail outlets. This kept Dell's overhead low relative to HP.

However, as you already learned in the chapter on Operations Management, a big part of Dell's success story is its commitment to rapid turnover of inventory. In fact, Dell's business model has historically enabled it to achieve a much higher inventory turnover rate compared to HP and the rest of the computer industry. This has allowed Dell to dedicate fewer assets to support a dollar of sales. This increases the amount of cash left over for shareholders, which is one of the big reasons why Dell historically has traded at a price-to-earnings ratio substantially above other players in the industry.

Last, but not least, there is the issue of the sustainability of the firm. To put this issue most simply: Is the business doing enough business to sustain itself into the future? This is obviously an important question for both investors and lenders. The answer may not necessarily be found in any one of the three major financial statements and the often confusing thicket of financial ratios. Rather, one of the keys to determining sustainability may be

found in another key document known as the auditor's opinion letter. As part of the auditing process, companies hire auditors to attest to the financial data prepared by management. These auditors are external to the organization and are supposed to be independent. In writing their opinion letters, the auditors are required to indicate if the organization has adhered to generally accepted accounting principles (GAAP) in its presentation of the financial statements. If the financial data indicate a lack of sustainability, the auditors must acknowledge this.

It is important to read the auditor's opinion for hints about any trouble with the data that might be included in the statements. The most serious of these is the going concern opinion, within which the auditors can state that they do not feel the organization is sustainable through the next accounting period. Such a substantial doubt opinion will have huge ramifications for the company's stock price and ability to borrow money.

Lecture 6: Managerial Accounting: “Doing the Numbers” for Internal Decision Making and Control

The **Suggested Reading** for this lecture is William N. Lanen, Shannon Anderson, and Michael W. Maher’s *Fundamentals of Cost Accounting*.

Figure 6.1 illustrates the big questions and key concepts of managerial accounting. Please take a few minutes to review the figure before continuing.

In thinking about the importance of managerial accounting, consider that the corporate finance team will need the company’s internal accounting system to determine such things as the company’s optimal level of debt and cost of capital. The firm’s managerial economists and marketing specialists need solid cost data to set prices and volume targets. The operations management unit can’t produce and deliver products from multiple factories, transit centers, and retail outlets around the world without a proper allocation of costs among the various pieces of the production and distribution pie. And the organizational behavior and human resource management teams can’t hire or fire efficiently unless the managerial accountants have put into place a solid system of “responsibility accounting” that can measure performance and hold employees accountable.

To begin this overview of managerial accounting, likewise consider that every organization must have an internal accounting system, which has at least two main purposes: decision making and control.

The first purpose of decision making is to provide the executive team and the broader managerial corps with the right information and knowledge to properly plan and make decisions. The second control function is to create a system of performance measurement and responsibility accounting that will help motivate and monitor people in organizations. Any internal accounting system that fulfills these two purposes will be useful in at least five different ways.

First, the accounting system will provide the information necessary to identify the most profitable products and services of the organization. Second, it will help formulate pricing and marketing strategies that will achieve the targeted volume levels. Third, it identifies any production inefficiencies to ensure that the organization’s products are produced at minimum cost. Fourth, it will enable reward systems that provide the proper incentives for employees at all levels to maximize the value of the firm. Finally, it will enable managerial and cost accountants to work hand-in-hand with financial accountants to provide all appropriate data.

According to Professors Ray Garrison and Eric Noreen: “A budget is a detailed plan for acquiring and using financial and other resources over a specified time period. It represents a plan for the future expressed in formal quantitative terms. . . . The use of budgets to control a firm’s activities is known as budgetary control.”

On the front lines of strategy implementation, there may be nothing more important in an organization than the development of the so-called master budget (or operating budget) and the various detailed budgets that go into the master budget's makeup. Such budgeting is a big part of the job of any company's team of accountants. At the helm of this effort typically is the company controller. This controller is the chief accounting officer of the corporation.

Figure 6.1
Managerial Accounting

THE BIG QUESTIONS

What are the major purposes and applications of any internal accounting system?

What is the role of budgeting in the strategic and profit planning process?
What kinds of budgets must a controller develop in the budgeting process?

How do you define the cost of a product or service for the purposes of pricing, contracting, and strategic and operational decision making?
Why do accountants say "different costs for different purposes"?

How do you design management control systems that promote the organization's strategic budgeting and planning goals?
How do you report on performance for managerial and employee accountability?



- Purposes
 - ~ Decision Making
 - ~ Management Control
- Applications
 - ~ Identify profitable products and services
 - ~ Pricing/Marketing Strategies
 - ~ Detect inefficiencies
 - ~ Provide Proper Incentives
 - ~ Provide Data to Financial Accounting System



- Budgeting Goals
- The Master Budget
 - ~ Sales Budget
 - ~ Purchase and Production Budget
 - ~ Operating Expenses
 - ~ Income Statement Budget
 - ~ Balance Sheet Budget
- Budgeting Types
 - ~ Traditional
 - ~ Zero-based



- Preparing External Reports
 - ~ Manufacturing vs. Nonmanufacturing Costs
- Predicting Cost Behavior
 - ~ Fixed and Variable
 - ~ Mixed Costs
 - ~ CVP Analysis
- Cost Allocation
 - ~ Direct vs. Indirect Costs
 - ~ Absorption vs. Variable Costing
 - ~ Activity-based Costing (ABCO)
- Management Control
 - ~ Standard Costs
 - ~ Variance Analysis
 - ~ Management by Exception



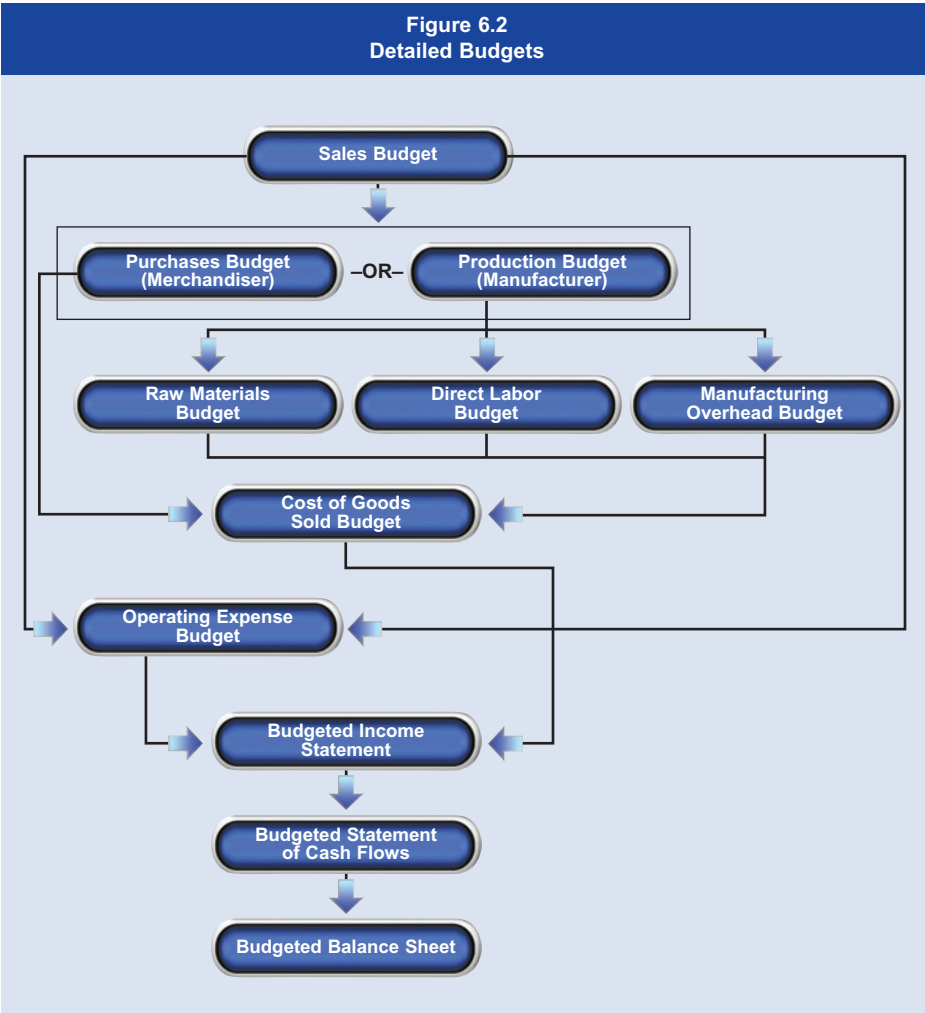
- Decentralization
- Responsibility Systems
 - ~ Profit Centers
 - ~ Cost Centers
 - ~ Investment Centers

THE KEY CONCEPTS

As for the master budget, its primary purpose is to summarize a company's plans with respect to all its major activities—from sales and production to distribution and financing—as represented by the set of detailed budgets that go into its makeup. These detailed budgets, and the broader sequence of budgetary activity, are illustrated in Figure 6.2.

You can see from that figure that the master budget is driven first and foremost by the sales budget, which is also called the revenue budget or the forecast. Once the forecast of sales is made, this provides the basis for the purchases budget, if the firm is in a merchandising industry or, alternatively, the production budget, if the firm is a manufacturer. In either case, both the purchases and production budgets lead to a cost-of-goods-sold budget, with the production budget taking intermediary stops at a raw materials budget, a labor budget, and an overhead budget.

Figure 6.2
Detailed Budgets



Finally, in the tie-in back to the financial statements you learned about in the last lecture, the result is a prospective budgeted income statement, budgeted statement of cash flows, and budgeted balance sheet.

Now here's the million dollar question—literally: Why does the controller go through the considerable time and trouble of constructing a master budget? This document is, in fact, one of the most versatile of documents that is regularly produced within any company. It helps the executive team meet at least six important goals—all of which dovetail nicely with the purposes of internal accounting systems noted earlier:

Six goals for the executive team:

1. Planning for the future.
2. Allocating resources across the firm's various units and products.
3. Identifying any potential bottlenecks in the manufacturing, purchasing, distribution, or service delivery processes.
4. Coordinating sales and production as well as other activities among the various business units and divisions.
5. Establishing benchmarks for performance reviews.
6. Communicating the goals of the executive team to the rest of the company.

Now there are at least two broad philosophies of how the controller and the various business units approach the budgeting task. In traditional budgeting, the starting point for the budgeting process is last year's numbers. However, an alternative approach, known as zero-based budgeting, starts each year from scratch. The benefit of zero-based budgeting is that it forces the executive team to constantly take a fresh look at all of its costs. However, this approach is also much more time-consuming and costly than traditional budgeting, so it is not universally embraced.

Different Costs for Different Purposes

The next set of big questions relates to perhaps the most important theme in managerial accounting. This theme is known as different costs for different purposes.

The idea behind the “different costs for different purposes” accountant's mantra is that costs can be measured in a number of ways. Depending on what the decision-making or management control goal is, one method might be preferred to another.

In fact, there are at least four different costs that managerial accountants typically track for a variety of purposes. The first type of cost is used primarily in the preparation of external reports. It distinguishes between manufacturing costs and nonmanufacturing costs.

The second type of costs deals with the task of predicting cost behavior and focuses on the difference between fixed, variable, and so-called mixed costs.

The third type of costs focuses on cost allocation and addresses the thorny issue of distributing direct costs and indirect costs over activities such as production.

Finally, the fourth set of standard costs is used for the purpose of management control and responsibility accounting. Such standard cost analysis is particularly useful to executive teams seeking to structure employee incentives so that everyone within the organization pulls toward the same goals.

Because the idea of different costs for different purposes is so important, we are going to now work our way through each of the four different costs and purposes in more detail. In this way, you should come to more fully understand how powerful an effect the discipline of managerial accounting can have on the management of an organization.

An analysis of manufacturing costs versus nonmanufacturing costs will help you prepare the kind of external financial reports you learned about in the previous lecture.

In fact, this is a relatively short story. In a nutshell, manufacturing costs, or so-called product costs, are carved up into labor, raw materials, and overhead costs. In contrast, you have nonmanufacturing or so-called period costs. These consist of both marketing and selling costs as well as administrative costs.

The second set of costs is more interesting. These are the fixed costs, variable costs, and mixed costs that enable the prediction of cost behavior. In fact, predicting cost behavior is one of the most important tasks of the managerial accountant. This is because it helps the organization determine what volume levels of products or services must be reached for the products or services to be profitable.

Note that in the analysis of cost behavior, the word volume is the key. That is, when you classify costs by their behavior, what you are really doing is looking at how a particular cost changes with respect to the volume driving it.

Fixed and Variable Costs

A fixed cost will not change as volume changes. The example most often used to illustrate this concept is the cost of rent. For a factory, this remains unchanged no matter what the volume or capacity utilization is. Hence the fixed cost line is perfectly horizontal; that is, it doesn't change with output.

At the other end of the cost spectrum, a variable cost responds in a linear manner with changes in volume, while at no volume, there are no variable costs. That is, every time another unit is produced in a manufacturing company, there is an additional variable cost associated with things like raw materials and labor.

Note that a firm's cost structure describes the pattern of these four types of costs, and for different kinds of industries, these patterns can vary widely. Capital-intensive firms like the airlines, utilities, and industrial metal producers have high fixed costs, while labor-intensive service industries like insurance, financial services, and retail businesses have high variable costs. As to why all of this matters, at least one answer can be found in the discussion of one of the most useful tools of cost behavior analysis—cost-volume-profit analysis, or CVP for short.

CVP analysis uses the described cost behavior patterns to interpret and forecast changes in operating income that might result from changes in revenue,

cost, or the volume of activity. One especially important application of CVP analysis is to determine the break-even point for a company or one of its units or products.

The key to the CVP concept is that as revenue increases as a result of selling more products or services, variable expenses will increase proportionally. However, and this is the important point, fixed costs will not increase because they are not a function of the level of volume and revenue-generating activity.

Because CVP analysis emphasizes the behavior pattern of variable costs and the impact that changes in volume may have on costs and profits, it is useful both for planning and for evaluating the actual results achieved.

As an illustration, consider this example provided by Professor Jerold Zimmerman in his textbook *Accounting for Decision Making and Control*, which considers whether Xerox should place coin-operated machines in public areas such as libraries, bookshops, and supermarkets. Under such a scheme, customers would pay 5 cents per copy, while the outlet providing the space will receive one-half cent per copy for a net revenue per copy of 4.5 cents.

On the cost side, Xerox will provide the outlet with the machine, service, paper, and toner. Machine costs may be treated as fixed because Xerox will charge its walk-up division a flat monthly fee of \$185 per month for each machine. Service costs may be calculated by noting that for every 30,000 copies, there will be an average cost of \$90 per service call. Paper and toner together will cost one-half cent per copy. With this data, we can calculate the variable costs, including paper and toner, the store owner cut, and service. This is 1.3 pennies.

The so-called contribution margin in CVP analysis is simply the difference between the price and variable costs per copy. Since the price of the copy is 5 cents and the variable cost is 1.3 cents, the contribution margin is 3.7 cents.

In fact, once one calculates the contribution margin, the data becomes very useful. Using it one can calculate the break-even point, which in this case provides the minimum number of copies the machine must sell to turn a profit.

The break-even point is simply the fixed costs of \$185 divided by the contribution margin of 3.7 cents. This yields a break-even point of 5,000 copies. In other words, using CVP analysis shows that if the copier makes 5,000 copies each month, it will produce enough net revenue after variable costs to cover the fixed costs and break even. More broadly, this example illustrates how classifying costs into fixed and variable components provides a simple decision rule as to where to place the copiers. If a store is expected to produce fewer than 5,000 copies per month, a copier should not be located there. The break-even volume thus provides a useful management tool for where to place machines.

Direct vs. Indirect Costs

The third type of costs is direct vs. indirect costs. The distinction between direct costs and indirect costs is made for the purpose of cost allocation and, more specifically, to determine the full cost of a particular product, service, or function.

There are numerous applications for such cost allocation, not the least of which is properly valuing inventories and the cost of goods sold and setting prices. This is important because many firms ignore full costs and unwittingly sell some of their products at too low a price and at a loss. In these cases, the company is effectively “cross subsidizing” the losing product with profits from other products. Such companies will not remain in business for long.

When cost accounting uncovers such instances of cross-subsidization, one prudent managerial decision may be to increase the product’s price if market conditions allow.

So just how does the managerial accountant team allocate costs? Typically, it can choose between several competing methods of costing—each with its own virtues and vices. One method is called absorption costing or, alternatively, the full cost method. A second is called variable costing, direct costing, or marginal costing and omits the fixed overhead component.

With absorption costing, the cost of a unit of a product consists not only of the direct labor and materials and variable costs of production, but also includes an allocated share of the fixed overhead. In contrast, variable costing only considers those costs of production that vary with output—like materials, labor, and the variable portion of overhead. Thus, it contains absolutely no fixed overhead costs.

The application of each method can yield dramatically different costs per unit and significantly affect managerial decisions. In fact, the slavish application of absorption costing can lead to some rather perverse outcomes, as illustrated by this example from Professors Ray Garrison and Eric Noreen. Consider an automobile manufacturing company that must choose between absorption costing and variable costing. If it chooses absorption costing, its executive team will seek to run the company’s plants at the highest capacity possible. With the high fixed costs of these plants, the profit per unit car sold will rise significantly as the company increases its capacity utilization. By running its factories at full capacity just to “make a profit,” however, the company might wind up dumping a glut of cars onto the market. As a result, the company will be forced to lower its prices, and if the price drop is greater than the unit decrease in costs from running the plant at higher capacity, profits will actually fall. This is precisely what happened to the Nissan’s North America division and the likely culprit was an overreliance on absorption costing.

Although variable costing makes it much easier to estimate the true profitability of products or customers, many accountants prefer absorption costing because their overriding concern is to match costs to revenues. Managers, on the other hand, are looking for insights that will inform better decision making at the margins—whether to offer a new product, cancel an existing one, or make another such decision. In this regard, however, variable costing may not be the best alternative either, especially in industries where product costs are heavily influenced along the value chain by expenditures on everything from R&D, design, and marketing to distribution and customer service costs.

Because of the drawbacks of traditional absorption costing and as an alternative to simple variable costing, more sophisticated methods have been developed to include fixed overhead costs. One such method is activity-based costing, or ABC.

Activity-based Costing

In contrast with traditional absorption cost accounting, in which predetermined overhead rates are computed by dividing budgeted overhead costs by some measure of budgeted activity such as labor hours, activity-based costing charges a product only for the capacity it uses. In a manufacturing context, for example, the ABC process attempts to identify the so-called cost drivers that consume resources on the “factory floor,” such as machine setups, materials handling, or quality inspections. Rather than using a single cost driver as some of the traditional cost accounting systems do, ABC looks at a variety of cost drivers and allocates overhead costs based on as many of them as are necessary to get the information desired.

Without question, activity-based costing accounting provides a much more accurate picture of product costs than traditional costing methods, but it has a downside: ABC takes time and resources to implement and to maintain and the payoff may not always justify the expense.

Five primary areas of concern in management control:

1. The determination of costs to achieve the firm’s strategic, tactical, and functional goals.
2. The identification and acquisition of resources.
3. The management of costs, which is a key source of earnings.
4. The focus on performance to obtain results.
5. The concentration on accountability.

One method used to measure standard costs is the standard cost-management by exception method. It has a long tradition in managerial accounting; and the idea behind standard costing is to set some sort of standard statistical “norm” or benchmark for measuring performance and then focus on the major statistical deviations or variances from the norm.

Note that manufacturing, service, food, and not-for-profit organizations all make use of standards to some extent. For example, auto service centers like Firestone and Sears often set specific labor time standards for installing a carburetor or doing a valve job and then measure actual performance against the standards. By the same token, fast-food outlets such as McDonald’s have exacting standards for the quantity of meat in Big Macs; hospitals have standards for food and laundry, and so on.

When significant variances from the standards are identified, the executive team can then focus on these variations, as they typically signal some type of production or service inefficiency. This is why this method is called management by exception.

Generally, managerial accountants use two kinds of standards. Quantity standards specify how much of an input should be used to make a product or provide the service. Cost or price standards specify how much should be paid for each unit of the input.

Note that when actual quantities or costs depart significantly from the standards, this should be a red flag to managers and warn them to investigate the discrepancy.

As an important additional technique in managerial accounting, there is the balanced scorecard approach. The balanced scorecard concept was developed by Robert Kaplan and David Norton, popularized in several *Harvard Business Review* articles, and adopted by large companies like Allstate Insurance, AT&T, Citicorp, and Mobil.

A balanced scorecard comprises an integrated system of performance measures that are derived from, and support, the company's strategy. Note that different companies need different balanced scorecards because they have different strategies and identify for themselves different key measures. As Professor Jerold Zimmerman has pointed out: "Some companies, such as Dell . . . and McDonald's choose *operational excellence*. Others such as Home Depot choose *customer intimacy* and others, such as Intel and Sony choose *product leadership*."

Of course, the broader point is that the most successful companies will excel in one chosen dimension that is consistent with their strategic focus but will also maintain high standards on the other dimensions—that's the "balanced" part of the scorecard.

Big Questions and Key Concepts

The last set of big questions and key concepts addresses the topics of performance reporting and responsibility accounting. Perhaps the most important question is this: How do you design management control systems that will promote the organization's strategic budgeting and profit-planning goals, particularly in growing organizations that have become highly decentralized? The answer lies at least partly in the use of so-called responsibility centers that can hold individual business units, executives, managers, and/or employees accountable.

As Professors Garrison and Noreen have succinctly put it, "Someone must be held responsible for each cost or else no one will be responsible, and the cost will inevitably grow out of control." In smaller companies and start-ups, the responsibility is relatively concentrated in a few, perhaps even one person. As companies grow and mature, however, this must give way to some form of a more decentralized structure.

Regardless of which form of decentralization an executive team chooses, more and more decisions, by definition, will be made at layers of the organization that are further and further from the top. Such decentralization can pose significant problems if the performance of these decentralized "actors" in the business drama can't be adequately measured and monitored. Increasingly complex performance management systems are necessary to accomplish this, and their development has been further spurred by two factors: the demand for accountability brought about by accounting scandals and growing concern over the cost side of the profit-generating equation.

One such system, known as responsibility accounting, posits that executives, managers, and employees should only be held responsible for that which they can actually control. Because responsibility accounting requires that managers be evaluated on only those factors they can control, a key objective is to identify what revenues and costs are directly traceable to a specific level of managerial responsibility. That type of detail on the structure of responsibility centers is an integral part of most managerial accounting courses.

Note that responsibility accounting necessitates a view of the enterprise that segments it into responsibility centers.

A responsibility center can be an area, function, unit, or other delineation of the enterprise for which a locus of control can be determined. The three major types are cost centers, profit centers, and investment centers.

In a cost center, managers will have control over cost but not over revenue or investment funds. Typical cost centers include service departments such as accounting, finance, general administration, legal, personnel, and so on. In such cost centers, standard cost variances such as have already been discussed are often used to evaluate the performance.

A profit center is any business segment in which a manager has control over both cost and revenue. Typically, a profit center's performance is judged on the level of net income, which, as you learned in the last chapter, is simply the difference between the revenues and expenses. Alternatively, performance may be judged by comparing actual profits to those profits targeted in the master budget.

An investment center is a segment of an organization whose manager has control over costs and revenue, and investments and operating assets. Professors Garrison and Noreen offer the example of a vice president of the truck division of General Motors who might have a good deal of discretion over investments in the division (like funding research for more fuel efficient sports utility vehicles).

Note that no single system will work well in every organization—or even for every part of a single organization. Rather, each of the three different systems has appropriate applications depending upon the department, business unit, process, or product being evaluated.

Lecture 7: Corporate Finance: The Ultimate Money Game

The **Suggested Reading** for this lecture is Stephen A. Ross, Randolph W. Westerfield, Jeffrey Jaffe, and Bradford D. Jordan's *Corporate Finance: Core Principles and Applications with Standard & Poors Card*.

Every chief financial officer of every company in the world understands this immutable truth: It is impossible to grow and prosper without new capital investment. It is by undertaking such capital investment that a firm can generate new positive cash flows and thereby add value to the firm.

In fact, such capital investment and the complex “capital budgeting,” “capital financing,” and “cash management” decisions that underlie it can take many forms. Should your company build a new factory—or perhaps modernize an old one? Should your company buy that expensive new piece of heavy machinery or computer hardware—or simply lease it? Should your company acquire a key rival—or perhaps a key supplier?

The analytical problem underlying such capital investments is this: While investment in new productive capital costs money upfront, the investment will also generate a flow of cash over time that should more than pay for that investment. But how exactly do you value certain up-front costs against typically much more speculative future cash flows to ensure a truly profitable return? How long should you wait to realize that return? What kinds of risks might your company face that might turn what looks to be a sure winner into a big loser? How should you evaluate and price those risks? And how should all of these investments be financed—with stocks or bonds or some other credit source?

These are precisely the kinds of questions that MBA students learn to answer in their corporate finance classes. Figure 7.1 organizes these questions within the context of the big questions and key concepts of corporate finance.

Long-term Capital Budget

Profit-maximizing corporate executives undertake capital investment to create value for shareholders, and shareholders benefit from the creation of such value in the form of a higher “total return” that consists both of dividend income and capital gains. That’s why the first big question of corporate finance explores the conditions under which a new capital investment, such as a factory or plant modernization, will add value to the firm.

To create the most value for shareholders, executives must have a way of evaluating any such proposed projects and determine their value contribution. Typically, executives must weigh the upfront costs of a capital investment against the longer-run stream of cash-flow benefits. This necessitates the use of a discounted cash flow, or DCF, method that takes into account both the time value of money and the risk of the project.

The basic time value of money principle is that a dollar today is worth more than a dollar tomorrow. That's because if you have a dollar today, you can put it to work in a bank earning interest and have more than a dollar tomorrow.

The basic risk principle is that a certain dollar to an investor has more value than a speculative or uncertain dollar. In the context of capital budgeting, while the costs of any given project are typically incurred with certainty, the stream of cash-flow benefits can only be forecast. For a variety of reasons, the actual cash-flow stream may not meet projections.

Accordingly, corporate executives must account not just for time but for risk as well. The tool most commonly used to do so is that of net present value (NPV). The calculation of NPV is a way of distilling a stream of risky cash-flow dollars over time into a single number expressed in today's dollars. Figure 7.2 provides a summary of the capital budgeting decision both in plain English and within the context of the NPV formula. It is one of the most powerful concepts in all of business economics and finance.

Figure 7.1
Corporate Finance

THE BIG QUESTIONS

Will a new capital investment project such as a new factory or plant modernization add value to the firm?

How do you design "diversified" and "efficient" portfolios that maximize return for a given level of risk?

How do you determine the optimal "capital structure" or ratio of debt and equity financing for the firm and capital projects?

How do you determine the profit-maximizing levels of short-term production inputs, product inventory, and other "current assets" while managing short-term cash and credit balances?

Long-Term Capital Budgeting

- Discounted cash flow analysis (DCF)
- Net Present Value (NPV)
- Discount Rate
- Risk-free rate
- Risk premium
- Capital Asset Pricing Model

Optimal Portfolio Design

- Risk/return tradeoff
- Variance, covariance, correlation, standard deviation
- "Feasible set"
- "Efficient frontier"
- Diversification effect
- Separation principle

Capital Financing and Structure

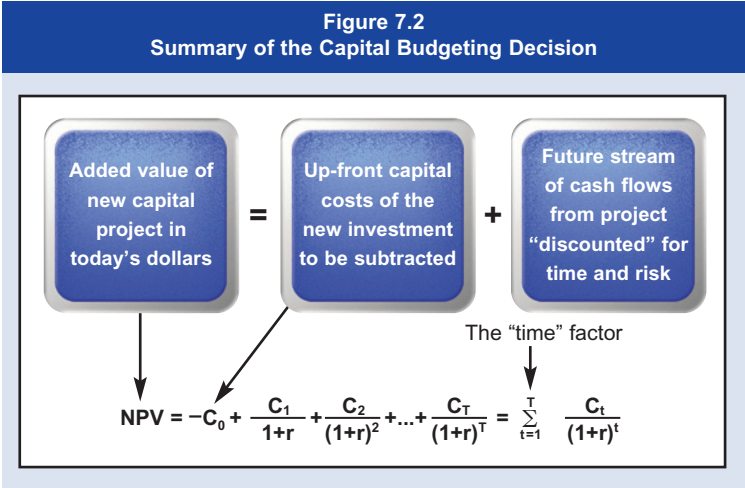
- Value of the firm
- Weighted average cost of capital
- Leverage
- MM Propositions
- Arbitrage
- Tax shield
- Bankruptcy risks
- Agency costs

Short-Term Financial Management

- Cash-flow timeline
- Operating vs. cash cycle
- Cash inflows vs. outflows
- Opportunity costs
- Carrying costs vs. shortage costs
- Stock outs and cash outs
- Liquidity
- Credit analysis

THE KEY CONCEPTS

From the figure, we see that the value of a project to the firm in today's dollars equals the upfront costs of the project (a negative number) plus the stream of cash-flow benefits over time period t , appropriately adjusted or “discounted” for time and risk.



Using this net present value, the corporate executive’s decision rule is simple: *Capital budgeting projects with a negative NPV will never be considered. Capital projects with a positive NPV are candidates for capital investment but may be subject to further tests or budget constraints.* And note that Table 7.1 provides some very interesting examples of how companies can create positive net present value.

<div>Table 7.1</div> <div>Examples of Actions Creating Positive Net Present Value</div>	
Type of Action	Examples
Introduce new product	Apple Corp's introduction of the first personal computer in 1976
Develop core technology	Honda's mastery of small-motor technology to efficiently produce automobiles, motorcycles, and lawn mowers
Create barrier to entry	Qualcomm patents on proprietary technology in CDMA wireless communication
Introduce variations on existing products	Chrysler's introduction of the minivan
Create product differentiation	Coca-Cola's use of advertising: "It's the real thing"
Utilize organizational	Motorola's use of "Japanese management practice," including "just in time" inventory procurement, consensus decision making, and performance-based incentive systems
Exploit new technology	Yahoo! Inc.'s use of banner advertisements on the Web and the digital distribution of new services

Please note that the critical determinant of a project's viability is the size of the discount rate used to adjust cash flows for time and risk. The discount rate—one of the most important concepts in finance—may be thought of as having two components. The first is the “risk free” return that your company could earn by investing its cash in a totally safe bank savings account, a money market account, or short-term government bond. To that risk-free return we must add a “risk premium”—the additional amount of return a corporation must offer to compensate investors for the risk involved in the project.

As an unbreakable rule, the higher the discount rate, the smaller will be the NPV of any given project and the less desirable it will be. In fact, choosing the appropriate risk-adjusted discount rate is one of the most difficult tasks facing business executives. The most common way used to calculate the discount rate is through the application of one of the most important and powerful tools of finance—the “capital asset pricing model.”

To truly understand the capital asset pricing model, we must come at the capital budgeting problem from an entirely different perspective—not the corporate executive's point of view, but the investor's. It is with this change in perspective that the subject of corporate finance becomes considerably more interesting—not just to corporate executives trying to build a profitable company but also to investment bankers, portfolio managers, and financial planners trying to make money in the stock and bond markets.

Expectations

If investors believe a project will add value to the firm by generating a positive NPV, the company's stock price should rise, holding all other things constant. But if investors believe a project will subtract value from the firm, the stock price should fall. Why?

One of the most important tenets of corporate finance is that, at any point in time, a company's stock price reflects an expectation of a future stream of earnings. It follows that if some news about a proposed capital project becomes available to market participants and that news changes expectations, the stock price must change.

One of AT&T's numerous attempts to penetrate the computer-manufacturing industry helps illustrate this point—just how effectively the stock market values capital investments. At one point, the telecommunications giant made an offer of \$90 per share for all of NCR Corporation's common stock. Within five days, the value of AT&T's stock dropped roughly \$1 billion. Clearly, the stock market believed this acquisition would result in a negative net present value.

The even broader point is that it is ultimately the stock market that determines the cost of equity capital for a publicly traded company by the manner in which it evaluates the shares of that company. The market does so by processing information in a way as to yield a solid answer to that enduring question: How risky is a particular company and what should be its discount rate for its new capital projects?

Figure 7.3 depicts the equation for the famous capital asset pricing model used in these calculations. On the left-hand side of the equation, we have the expected return on a security. In fact, this is the discount rate for equity

capital that we are seeking to estimate. What the model says is that this expected return may be calculated by adding the risk-free rate to the difference between the expected return on the broad market and the risk-free rate times the beta of the security.

Figure 7.3
Equation for the Capital Asset Pricing Model

\bar{R}	=	R_F	+	β	x	$(\bar{R}_M - R_F)$
Expected return on a security	=	Risk-free rate	+	Beta of the security	x	Difference between expected return on market and risk-free rate

Of course, the risk-free rate is the rate you can earn in a short-term government treasury note with certainty. What isn't yet known is how risk is defined by the difference between a security's expected return and its realized return. For the holding of a stock, the realized return in any given year consists of two components: (1) the dividend income generated by the stock and (2) the capital gain or capital loss one might incur while holding the stock.

As for the expected return of a security, it is just that. It is what investors believe that the realized rate of return will be at the end of the relevant period, typically a year. Of course, the expected return of a security can differ significantly from the realized return, and that is the very essence of risk.

As seen in Figure 7.3, this expected return includes the risk-free rate of return that appears as the first term on the right side of the equation. However, it also includes a risk premium embodied in the second set of terms.

Note that it is the unanticipated part of the return—that portion resulting from surprises—that reflects the true risk of any investment. After all, the return was what was expected, there would be no risk and no uncertainty. There are important differences, however, among various sources of risk, and it is useful to divide such risk into two components: systematic risk and the remainder, which is called alternatively diversifiable, idiosyncratic, or unsystematic risk.

A systematic risk is any risk that affects a large number of assets, each to a greater or lesser degree. Uncertainty about general economic conditions, such as economic growth, interest rates, or inflation, is an example of systematic risk, because these types of conditions affect nearly all stocks to some degree.

In this macroeconomic context, systematic risk may be thought of as the risk associated with investing in the broad financial markets (for example, buying an index fund for the S&P 500). The nature of such risk is primarily cyclical. As you will learn about in the lecture on macroeconomics, as the business cycle moves upward in an expansionary mode, the returns to the market tend to be considerably higher than the returns earned during downturns in the business cycle. Invariably, the years of negative returns occur during economic recessions or, in the case of the late 1920s and early 1930s, the Great Depression.

In contrast, unsystematic risk represents the unanticipated part of a company's return resulting from surprises unrelated to the overall market return. It is a risk that specifically affects a single asset or a small group of assets. For example, the announcement of a small oil strike by a company may very well affect the company alone or a few other companies. However, such a small strike is unlikely to have any effect on world oil markets. Similarly, a biotech firm may face the risk of failed clinical trials for a new drug, a manufacturing firm may have one of its patents successfully challenged in court, and all firms face the risk of losing market share and profits from competition from other firms in their industry.

Now here's the punch line: By subdividing risk into its two component parts, we are able to make two very important points: (1) unsystematic risk can be diversified away in a portfolio and (2) the remaining systematic risk can be measured by the so-called beta using the capital asset pricing model.

In fact, the idea of the beta is one of the great concepts in all of corporate finance. If the stock price of a company rises faster than the broad market in good times and falls faster than the broad market in bad times, that company is said to be riskier than an investment in the broad market. These companies will have a beta greater than one; and it should be obvious that betas above one represent high systematic risk, reflecting greater "volatility" than the market. Such a description might fit companies in highly cyclical sectors like technology.

Alternatively, if the stock price of a company rises more slowly than the broad market in good times and falls more slowly in bad times, that company is less risky than an investment in the broad market and will have a beta less than one, representing low systematic risk. Such a description might fit companies in noncyclical "defensive" sectors like food, drugs, and beverages.

Now there are two critical effects to consider when combining stocks into a portfolio to maximize one's returns. These two effects are known as "volatility" and "co-movements," and they are known in the parlance of statistics as variance and covariance.

Note that a positive relationship or covariance between two securities increases the variance of the entire portfolio. That's not a good thing if you are looking to diversify your risk. On the other hand, a negative relationship, or covariance, between the two securities decreases the variance—and the risk—of the entire portfolio.

This important result seems to square with common sense. If one of your securities tends to go up when the other goes down, or vice versa, your two securities are offsetting each other. You are achieving what is called a hedge in finance, and the risk of your entire portfolio will be lower. However, if both your securities rise and fall together, you are not hedging at all. Hence, the risk of your entire portfolio will be higher.

This concept of hedging is important because one way to diversify nonsystematic stock market risk will be to invest in the stocks of companies in different industry sectors. For example, an investor who holds two stocks in the same semiconductor sector generally will be less diversified than an investor who holds one stock in a sector like chips and another stock in a sector like drugs.

The broader point here is that the variance of a portfolio depends on both the variances of the individual securities and the covariance between the two securities. That means that, in seeking a diversified portfolio, an investor ultimately cares about the contribution of each security to the expected return and risk of the portfolio—that is, the systematic risks.

Intuitively, then, what the capital asset pricing model tells us is that the risk of holding any individual stock is a function of its relationship to movements in the broad market and other stocks and that you can combine negatively correlated stocks in a manner that helps you diversify your risk.

Capital Structure

The third big question of corporate finance is how one determines the optimal capital structure or ratio of debt and equity financing for the firm and its capital projects.

In a corporate finance context, as profit-maximizers, the corporate executive team must choose a debt-to-equity ratio—that is, some combination of bond- and equity-financing—that maximizes the value of the firm.

Note that companies in different sectors tend to systematically favor different capital structures. For example, industry sectors such as building construction, hotels and lodging, and air transport all favor higher debt-to-equity ratios and rely heavily on bond-financing to fuel growth. On the other hand, companies in the drug and chemical, and electronics computer sectors tend to avoid heavy leverage, preferring instead to fuel their capital investment needs primarily by issuing new stock.

What might account for these radically different and apparently systematic capital structures across different sectors of the economy? The answer to this intriguing question lies at the very heart of corporate finance. To answer it, one must acquaint oneself with the famous “Modigliani-Miller Propositions.”

To begin, as a rule, the cost of debt capital is less than that of equity, because debt tends to be less risky. This is primarily because, under corporate law, bondholders take precedence over stockholders when it comes to claims on the firm’s assets. Bondholders always get their interest payments first. Only if there is cash left over will shareholders get their dividends. Moreover, if the firm goes bankrupt and is liquidated, bondholders must be compensated before stockholders.

Because debt capital is cheaper, finance scholars originally believed that it was better to rely on it for financing needs. That was, however, until the 1950s when two Nobel laureate economists, Franco Modigliani and Merton Miller, first articulated a set of theoretical propositions known as the M&M Propositions.

Proposition I: In the absence of taxes or the consideration of bankruptcy costs, the value of the unlevered firm is the same as the levered firm.

Proposition II: A firm cannot lower its weighted average cost of capital by increasing its debt load—even though the cost of debt is lower than that of equity.

Note that these two propositions imply something quite startling, namely, that the value of the firm is independent of capital structure. Therefore, it

doesn't matter what capital structure managers choose; this can have no impact on the value of the firm.

Note further, however, that in the center lane of life, where theory often crashes into reality, the original M&M propositions faced a very real-world problem. They neither predicted nor explained the quite observable systematic differences in capital structure one observes across different industry sectors that I described earlier. Indeed, the propositions imply that such variations are the result of random decisions by managers rather than logical, value-maximizing choices.

So how did Modigliani and Miller bridge this gap between theory and reality? They did so by taking into account the effects of both taxes and bankruptcy costs.

Under the corporate tax law in the United States, the Internal Revenue Service treats interest payments going to bondholders differently than it does earnings going to stockholders. Indeed, interest on debt totally escapes corporate taxation—it is directly expensed. In contrast, earnings after the deduction of interest are taxed, for example, at a 35 percent rate. The result of this tax shield for interest is that by increasing leverage, business executives can increase the value of the firm.

In particular, because the levered firm pays less in taxes than does the all-equity firm, the sum of the debt plus the equity of the levered firm is greater than the equity of the unlevered firm. This leads us back to our point of intuitive origin: because debt is cheaper (albeit this time through a tax shield effect), the value of the firm will be maximized only if it is completely levered.

While this theory seems to comport better with reality, it doesn't quite get at the whole story. Indeed, there must be some constraints on high leverage because, the superiority of debt financing notwithstanding, firms are never completely leveraged. Why? The answer lies in such factors as bankruptcy risks and so-called agency costs that act as a brake or constraint on leverage.

In the case of bankruptcy risk, the higher the leverage of the firm, the greater its fixed obligations to service its debt. Thus, for example, in any kind of industrial sector in which sales revenue and earnings are highly cyclical, the highly or completely levered firm runs the high risk of encountering a recessionary patch in which it will not have the cash flow to pay its debts. That, in turn, means that as the firm approaches 100 percent leverage, its cost of debt rises to a point where using additional debt financing is no longer optimal. As a practical matter, this means that debt capital grows ever more risky and expensive as any firm becomes more levered—thereby discouraging its use after a certain point.

Based on these observations, Modigliani and Miller amended their propositions to take into account the tax shield as well as the risks of bankruptcy and agency costs. The new propositions:

Proposition I: Since corporations can deduct interest payments but not dividend payments, corporate leverage lowers tax payments.

Proposition II: The cost of equity rises with leverage because the risk to equity rises with leverage.

As it turns out, these revised propositions go a long way toward explaining systematic differences in the capital structures of different firms.

Short-term Financial Management

The fourth and final big question of corporate finance is this: How do you determine the profit-maximizing levels of short-term production inputs, product inventory, and other "current assets" while managing short-term cash and credit balances? Typically, these short-term decisions involve cash flows within a year or less and revolve around more specific questions:

How much raw material and how much inventory of other "production inputs" should be kept on hand for the production process?

What should be the target level of inventory on hand to meet product demand?

What is a reasonable level of cash to keep on hand in the bank to pay bills?

To begin to answer these questions, one must distinguish between the operating cycle of a firm and its cash cycle. This is because the firm's short-run operating activities create patterns of cash inflows and cash outflows that are both unsynchronized and uncertain.

They are unsynchronized because the payments of cash for raw material do not happen at the same time as the receipt of cash from selling the product. They are uncertain because both futures sales and costs are not known with certainty to the management team. The result is that a company can face "gaps" between short-run cash outflows and inflows that create the need for short-term financial management.

In fact, any "gap" between cash inflows and cash outflows creates the need for short-term financial planning. And note that a company can fill such gaps either by borrowing or holding a liquidity reserve for marketable securities. Perhaps more importantly, the executive team can shorten the gap by changing its policies regarding the amount of raw materials purchased, the inventory held, and the length of the accounts payable and receivable periods.

In this regard, in virtually every field in business, you will encounter some type of figure or graph or set of equations that illustrate how to "optimize" the relevant decision at hand based on a calculus that weighs the costs of a particular policy against its benefits. In corporate finance, we can use a similar type of analysis to determine issues such as how much raw material and inventories should be held.

The key concept here is to balance the so-called carrying costs of holding current assets against the shortage costs associated with not having the assets.

For example, if a firm winds up with no inventory—or a "stock out," as it is referred to in the trade—it will not only lose sales but also customer good will. By the same token, if it runs short of production inputs, its production schedule will be disrupted. Thus, there are obvious benefits to holding more assets.

This kind of analysis can be used to answer several other burning questions of short-term corporate finance. A perfect example is that of cash management.

Firms hold cash for two basic reasons. One is to satisfy the transactions motive. Cash is collected from sales from operations, sales of assets, and new financing. Cash is also disbursed to pay wages and salaries, trade debts, taxes, and dividends.

The second reason to hold cash is for compensating balances. That is in exchange for receiving services from commercial banks, a firm is typically required to keep a minimum level of cash on deposit. This, of course, creates an opportunity cost in the form of foregone return that could have been realized had the cash been invested in some manner.

To manage the firm's cash, the firm's executive team must determine the appropriate target cash balance, collect and disburse cash efficiently, and appropriately invest excess cash in marketable securities that earn a return.

Determining the appropriate target cash balance involves a cost-benefit optimization—such as the one conducted above for current assets. In this case, this optimization involves a tradeoff between the benefits and costs of liquidity, that is, of holding cash. Some of the benefits of liquidity include being able to pay one's bills as needed and retaining customer, employee, and creditor good will. In contrast, the costs of liquidity are primarily the opportunity costs of idle cash not earning a higher return.

Lecture 8:
Organizational Behavior:
The Rodney Dangerfield of the B-School Curriculum

The Suggested Reading for this lecture is Steven McShane and Mary Ann Von Glinow's *Organizational Behavior*.

Among many business executives and MBA students, organizational behavior (OB) is known as the “Rodney Dangerfield” of the business school world—it doesn’t get much respect.

A big part of the problem is that the world of business often seems to be about specialization—and particularly specialization in core functional areas such as finance, marketing, and operations management. Of course, if you specialize in one of these areas, you will have a corresponding job title like chief financial officer, director of marketing, and so on. But who ever heard of a career path leading to “vice-president of organizational behavior” or “chief OB officer”?

Yet spend enough time in the workplace and you will eventually discover that people in every specialization work best when they tap into this gold mine of knowledge called organizational behavior. OB not only helps you to understand, predict, and influence the behavior of others; it is also the platinum key to effective leadership. That’s precisely why people need to become chief OB officers if they want to excel in their specialization or lead others from the top ranks of the organization.

So just what exactly is organizational behavior? Studies are typically divided into three highly interrelated levels of analysis—the individual, teams and groups, and the broader organization.

Individual processes typically focus on how individuals behave. This matters because, as you will learn, individual processes dealing with values, personality, motivation, and job satisfaction can all affect a company’s performance.

The team and group level processes look at the way people interact. This includes not only issues of team development and effectiveness but also various perspectives on the perennial management question: What makes for good leadership?

Finally, organizational processes take a Big Picture look at what happens in companies. Two pieces of this Big Picture that will be looked at in this lecture are organizational culture and organizational change. You will see how a healthy organizational culture can lead a company like Southwest Airlines and other firms to peak performance while a pernicious culture can send the infamous Enron and other firms down the road to ruin and disgrace.

The area of individual behavior and processes is a good place to start. Perhaps the best way to explain why this area of OB is important is to answer five questions commonly encountered in organizational behavior studies.

First, there is this question: “What are the sources of individual behavior and performance?” This question is important because guiding employee behavior is one of the main keys to effective organizations.

Second, “How do values and personality affect behavior and performance?” This question is asked because if leaders better understand individual characteristics, they will do a better job of hiring the right people and putting them into the right jobs.

Third, “How do emotions and attitudes, particularly job satisfaction, influence workplace behavior?” This question is important because attitudes and emotions have a complex and pervasive effect on how people act at work.

Fourth, “How do we motivate employees?” This is asked because highly motivated employees are a key ingredient in corporate and organizational success.

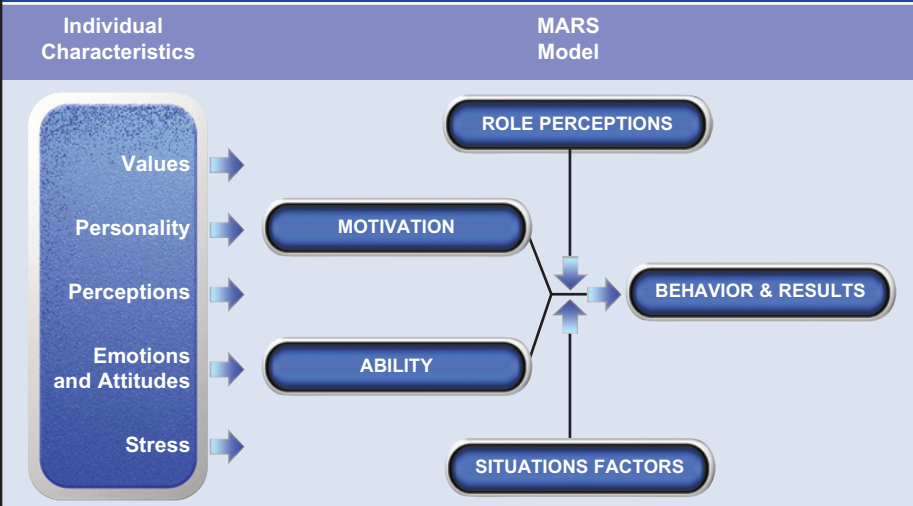
Finally, “What constitutes fairness and justice in areas such as compensation and job assignments and promotions?” This is asked because companies that treat their employees unfairly are likely to fare far worse than other companies that tend to these issues.

As for how OB scholars study individual behavior and performance, there is the rather ubiquitous use of various models.

One such model is known as the MARS model. In this model, pictured in Figure 8.1, MARS is an acronym for motivation, ability, role perceptions, and situational factors.

The left-hand side of the figure identifies individual characteristics such as values, personality, perceptions, emotions, and stress. These characteristics feed into the four elements of the MARS model and the resulting behavior and results.

Figure 8.1
The MARS Model



Motivation represents the forces within a person that affect his or her direction, intensity, and persistence of voluntary behavior. Ability includes both the natural aptitudes and learned capabilities required to successfully complete a task. The challenge here is to hire people with the right abilities, or to train them so they develop learned capabilities.

Role perceptions represent how well a person understands what the job involves, such as what tasks to perform and their relative importance. The fourth element of the MARS model, called situational factors, includes conditions beyond the employee's immediate control that can constrain or facilitate his or her behavior and performance.

CANOE

Another common model used in organizational behavior is the so-called CANOE model, where "CANOE" is an acronym for five key personality traits.

The "C" in canoe stands for conscientiousness, and it refers to people who are careful, dependable, and self-disciplined. Every executive team loves to hire conscientious people because people with low conscientiousness tend to be careless, less thorough, more disorganized, and irresponsible.

"A" stands for agreeableness. It includes the traits of being courteous, good-natured, empathetic, and caring. People with low agreeableness tend to be uncooperative, short-tempered, and irritable, so it is useful to screen these personality types out.

"N" stands for neuroticism. This characterizes people with high levels of anxiety, hostility, depression, and self-consciousness. In contrast, people with low neuroticism and high emotional stability are poised, secure, and calm.

The "O" in CANOE stands for openness to experience. This trait generally refers to the extent that people are sensitive, flexible, creative, and curious. Those who score low in this dimension tend to be more resistant to change, less open to new ideas, and more fixed in their ways.

As for the final letter in CANOE, there is "E" for extroversion. This characterizes people who are outgoing, talkative, sociable, and assertive. The opposite personality type is introversion, which refers to those who are quiet, shy, and cautious. So guess which type you would want on your sales force?

The broader point with the CANOE model is that personality makes a difference in the workplace. Conscientious employees set higher personal goals for themselves, are more motivated, and have higher performance expectations than do employees with lower levels of conscientiousness. People with high emotional stability tend to work better than others in high-stress situations. Those with high agreeableness can handle customer relations and conflict-based situations more effectively. Champions of organizational change seem to place well along the positive end of all five personality dimensions.

While values and personality are the bedrock of individual behavior, they are the most stable elements in people. Much less stable, but equally important for individual behavior, are emotions and attitudes.

In OB speak, emotions are psychological and physiological episodes experienced toward an object, person, or event that create a state of readiness. Sadness, joy, anger, and contentment are emotions that are experienced at work. These emotions are temporary and are usually apparent through behavior (smiling, frowning, nervousness), and emotions play a vital role in attitudes toward jobs and the workplace.

In contrast, attitudes represent the cluster of beliefs, assessed feelings, and behavioral intentions toward a person, object, or event. Attitudes are judgments, whereas emotions are experiences. Attitudes involve logical reasoning, whereas emotions are sensed. People also experience most emotions briefly, whereas attitudes toward someone or something are more stable over time.

Think about your attitude toward your boss. You might believe that your boss makes fair decisions and is generous toward staff. These beliefs affect your feelings toward your boss, that is, your evaluation of whether your boss is good or bad overall. Your evaluation of your boss leads to behavioral intentions—what you are motivated to do toward your boss. If you dislike your boss, you might be motivated to quit your job, ask for a transfer to another department, or complain to top brass about your boss. These behavioral intentions then influence your behavior.

Of course, organizational behavior experts have studied many attitudes, but one that stands out above the rest is job satisfaction—a person's evaluation of his or her job and work context. How much one likes or dislikes his or her job and work context has an important effect on how one acts.

The ELVN Model

EVLN is an acronym for exit-voice-loyalty-neglect.

Exit refers to searching for other employment, actually leaving the organization, or transferring to another work unit. Exit occurs when people don't think they can change the source of the dissatisfaction.

Voice includes any attempt to change, rather than escape from, the dissatisfying situation. Trying to solve a problem with management is a form of voice, but so are more confrontational actions, such as filing grievances. And note here that engaging in counterproductive behavior to get attention is the most destructive form of voice.

As for loyalty, it applies to employees who patiently wait. Some people say these employees "suffer in silence" while the problem works itself out or gets resolved by others.

Of course, the fourth way that employees react to job dissatisfaction is through neglect. This refers to reducing work effort, paying less attention to quality, and increasing absenteeism and lateness. Note that either loyalty or neglect can occur when employees don't think they can change the problem but also don't have other employment opportunities.

One of the hottest topics in OB is emotional intelligence, or EI. EI is the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in oneself and others.

Table 8.1 illustrates the four main elements of emotional intelligence, which consists of how well we recognize and regulate one’s own emotions and the emotions of others.

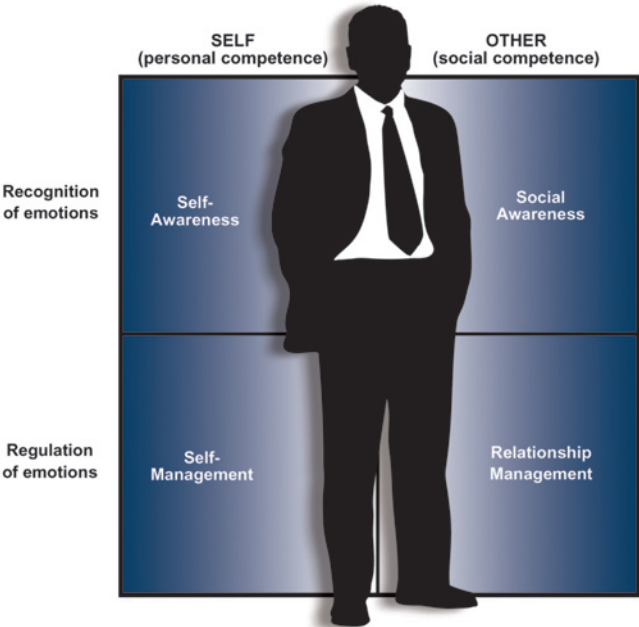
Self-awareness refers to having a deep understanding of our own emotions as well as strengths, weaknesses, values, and motives. Self-aware people also recognize their intuition or gut instincts.

Self-management is all about controlling or redirecting one’s emotions. It is about keeping disruptive impulses in check, maintaining the drive to perform, and remaining optimistic even after failure.

Social awareness, the third element of emotional intelligence, is mainly about empathy—having understanding and sensitivity to the feelings, thoughts, and situations of others. In this regard, socially aware people are usually better at customer service and can sense organizational politics.

The final and most challenging element of EI is relationship management, which refers to managing other people’s emotions. This includes everything short of walking on water, such as inspiring others, managing change, resolving conflict, cultivating relationships, and supporting teamwork.

Table 8.1
The Four Main Elements of Emotional Intelligence



The degree of emotional intelligence can make a big difference in the work place. Just consider this case involving the United States Air Force.

Each year, the United States Air Force hires about four hundred recruiters, and each year up to one hundred of them are fired for failing to sign up enough people for the service. Selecting and training one hundred new recruiters costs \$3 million, not to mention the hidden costs of their poor performance. In response to this dismal situation, the head of Air Force recruiting decided to give 1,200 recruiters a new test that measured how well they manage their emotions and the emotions of others.

From this experiment in “emotional intelligence,” the Air Force discovered that the top recruiters were better at asserting their feelings and thoughts, empathizing with others, feeling happy in life, and being aware of their emotions in a particular situation. The next year, the Air Force hired new recruiters partly on their results of this emotional intelligence test. The result: only eight recruiters got fired or quit a year later.

Teams and Leadership

A second broad organizational behavior theme is that of teams and leadership. In OB speak, teams are groups of two or more people who interact and influence each other, are mutually accountable for achieving common goals associated with organizational objectives, and perceive themselves as a social entity within an organization. Work teams exist to fulfill some purpose.

So why are teams important? Experts say that teams, not individuals, have become the building blocks of organizations. But just why are teams effective?

One important reason is that, under the right conditions, teams tend to be better than lone individuals at making decisions. Team members are also more likely to discover problems or opportunities. They create synergy by pooling their knowledge to form new alternatives. And they’re often better than individuals at choosing the best alternatives, because the decision is reviewed by people with diverse perspectives.

Note that while teams can be highly effective, they are not always the panacea for every problem. One reason is that corporate executives may be so “wowed” by teams that they install them in situations where an individual could do the job faster and better.

A second reason is that some members tend to engage in so-called social loafing. This occurs when a person exerts less effort and performs at a lower level when working in a group than when working alone.

So just what is leadership? A few years ago, fifty-four scholars from thirty-eight countries reached a consensus that leadership is the ability to influence, motivate, and enable others to contribute to the effectiveness and success of the organizations of which they’re members. Even with this unified definition, one needs to be aware that there are at least three main perspectives on leadership: These are leadership competencies, contingency leadership, and transformational leadership.

Table 8.2 outlines the seven competencies of effective leaders from the leadership competency perspective. These competencies range from integrity and emotional intelligence to drive, self-confidence, and knowledge of the business.

As for the contingency perspective of leadership, it usefully distinguishes between people-oriented behavior and task-oriented behavior.

People-oriented behavior on the part of managers includes showing trust in and respect for subordinates, demonstrating a genuine concern for their needs, and having a desire to look out for their welfare. In contrast, task-oriented leaders assign employees to specific tasks, clarify their work duties and procedures, ensure that they follow company rules, and push them to reach their performance capacity.

So which style of behavior is best? After debating whether leaders are more effective with a people-oriented or task-oriented leadership style, OB experts have concluded that the best leadership style actually depends on the situation. This is why this view is known as the contingency perspective of leadership.

According to various contingency theories of leadership, the people-oriented style works best when employees experience stress and lack supportive team members. The task-oriented leadership style works best for followers who are inexperienced, lack confidence in their abilities, work in teams that don't support company goals, and work on complex or ambiguous tasks. In contrast, task-oriented leadership is ineffective when employees are skilled and experienced because they feel resentful at being overmanaged.

The third, and perhaps the currently most popular, perspective on leadership is that of the transformational perspective. As an example of a transformational leader, there is the story of a Chinese executive newly appointed as CEO to a major appliance manufacturer in China. This executive was so incensed by the poor quality of the products built at the company's factory that he picked up a sledgehammer and smashed several washing machines.

Today, the legendary sledgehammer is displayed in a glass case on the company's shop floor, which has been transformed into a model of modern efficiency. Thousands of employees dress in clean uniforms and work in pristine

Table 8.2
The Seven Competencies of Effective Leaders

Leadership Competency	Description
Emotional Intelligence	The leader's ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in oneself and others.
Integrity	The leader's truthfulness and tendency to translate words into deeds.
Drive	The leader's inner motivation to pursue goals.
Leadership Motivation	The leader's need for socialized power to accomplish team or organizational goals.
Self-Confidence	The leader's belief in his or her own leadership skills and ability to achieve objectives.
Intelligence	The leader's above-average cognitive ability to process enormous amounts of information.
Knowledge of the Business	The leader's understanding of the company's environment to make more intuitive decisions.

workshops, while a fully automated logistics center and advanced research and development program help to produce superior quality appliances.

The following are four types of behavior that help define this type of leadership.

First, effective transformational leaders help shape a corporate vision—a desirable image of the company's future.

Second, transformational leaders communicate this vision in ways that make it appealing and motivating. They frame their messages around a grand purpose with emotional appeal that captivates employees and other corporate stakeholders.

Third, transformational leaders model the vision. They “walk the talk” by doing things that symbolize the vision and by acting consistently with that vision.

Finally, transformational leaders build commitment to the vision through their communication and modeling, as well as through their “authenticity” as leaders.

Two important organizational processes are the critical concepts of organizational culture and organizational change.

Organizational culture may seem like a “touchy-feely” concept that is difficult to grasp, but it is constantly on the minds of senior executives. In OB-speak, organizational culture is the basic pattern of shared assumptions, values, and beliefs that are considered to be the correct way of thinking about and acting on problems and opportunities facing the organization.

Organizational culture defines what is important and unimportant for the company. For example, Walmart embraces a culture of frugality and efficiency. It has Spartan waiting rooms for suppliers, visitors buy their own coffee and soft drinks, and employees sit at inexpensive desks.

In contrast, the SAS Institute has one of the most employee-friendly cultures on the planet. Located on a 200-acre campus in Cary, North Carolina, the world's largest privately held software company offers free on-site medical care, unlimited sick days, heavily subsidized day care, personal trainers, and inexpensive gourmet cafeterias. Both Walmart and SAS Institute are incredibly successful, yet both have quite different corporate cultures.

As to why organizational culture can be so important, culture is the “social glue” that bonds people together and makes them feel part of the organizational experience. Employees are motivated to internalize the organization's dominant culture because it is consistent with their drive to bond. This social glue is increasingly important as a way to attract new staff and retain top performers.

A strong corporate culture also helps employees better understand their organization while allowing them to communicate more efficiently and reach higher levels of cooperation with each other because they share common mental models of reality.

Note, however, that a very strong culture sometimes can be a problem because it stifles dissent. This prevents employees with different views from voicing their opinions, and ultimately makes it difficult for companies to change their culture over time.

Other important organizational processes are those having to do with organizational change. Put simply, companies can't survive if they don't change, because eventually they won't provide products or services that customers want, they won't be able to secure the resources necessary to make those products or services, and they won't remain competitive with other firms in the efficient transformation of inputs to outputs. That's why OB scholars pay a lot of attention to why companies have difficulty changing and to various strategies that help them change more smoothly.

To understand the problem of resistance to change, consider the situation faced by BP Norge a few years ago. This Norwegian subsidiary of British Petroleum tried to introduce self-directed work teams on its drilling rigs, but its executive team was met by a wave of complaints.

For example, some employees claimed that previous attempts to create such teams hadn't worked. Others complained that self-directed work teams required more responsibility, so they wanted more status and pay. Still others were worried that they lacked the skills to operate in self-directed work teams.

Unfortunately, the experience of BP Norge isn't unusual. Corporate leaders invariably experience varying levels of resistance when introducing change. This phenomenon can be traced to at least five reasons.

First, there are direct costs—in our example, some BP Norge employees resisted self-directed work teams because they believed they would result in higher direct costs or lower benefits than the existing situation.

Second, there is the matter of saving face—some people resist change as a political strategy to “prove” that the decision is wrong or that the person encouraging change is incompetent.

Third, there is fear of the unknown—in our example, some BP Norge employees rebelled against self-directed work teams because they were worried that they could not adopt to a self-directed work team environment.

Fourth, there is the matter of breaking routines—people resist organizational changes that force them out of their comfort zones and require investing time and energy learning new role patterns.

Fifth, there is the problem of incongruent organizational systems—rewards, selection, training, and other control systems encourage employees to act in a certain way. If these systems don't change, employees won't change either.

Given these sources of resistance, how should leaders bring about change in the organization? There are two parallel strategies. One strategy involves increasing employee motivation to change. The other strategy includes several ways to reduce the various sources of resistance to change.

Regarding the first strategy, leaders need to ensure that employees are aware of the urgency to change. The urgency to change must be real, and employees need to be aware of these forces for change in order to be sufficiently motivated to break out of their comfort zones. That's why it is important for employees to experience the very real forces for change in the external environment. These range from customer complaints and increased competition to an increasing scarcity of valuable resources.

Unfortunately, some organizational leaders will buffer their employees from the external environment, and yet they are surprised when change does not occur. Worse still, some leaders may rely on contrived threats rather than the external driving forces to support the change effort.

Note, however, that increasing the urgency to change usually isn't enough to bring about change. That's because employees often "push back" when confronted with these forces for change. That's why effective change management also involves a second strategy, namely, directly dealing with the sources of resistance.

In this regard, communication is the highest priority required for any organizational change. It reduces the restraining forces by keeping employees informed about what to expect from the change effort, thereby minimizing fear of the unknown.

Training is likewise an important process in most change initiatives, because employees need to break old routines and learn new knowledge and skills. So, too, is employee involvement, because participation in the change process tends to help employees save face, feel less uncertainty about the future, and develop team norms that are more supportive of the change.

Still another way to reduce resistance to change is through negotiation. Negotiation potentially increases support from employees who bear large direct costs from the change or who need to break routines. However, this strategy merely gains compliance rather than commitment to the change effort, so might not be effective in the long term.

If all else fails, leaders can rely on coercion to change organizations. Coercion includes persistently reminding people of their obligations, frequently monitoring behavior to ensure compliance, confronting people who do not change, and using threats of sanctions to force compliance. Firing people who will not support the change is an extreme step, but it is not uncommon. At the same time, coercion is a risky strategy because the survivors—the employees who are not fired—may have less trust in corporate leaders and engage in more political tactics to protect their own job security.

Keep in mind that organizational behavior is a huge, sprawling field. Some of the other topics you might want to read about elsewhere include perceptions, cultural diversity, learning, knowledge management, organizational commitment, and job design.

To close, consider these words uttered nearly one hundred years ago by the great industrialist Andrew Carnegie:

"Take away my people but leave my factories, and soon grass will grow on factory floors. Take away my factories but leave my people, and soon we will have a new and better factory."

Lecture 9: Strategic Human Resource Management: The Awesome Power of People

The **Suggested Reading** for this lecture is Raymond Andrew Noe, John R. Hollenbeck, Barry Gerhart, and Patrick M. Wright's *Human Resource Management*.

As with the previous lecture on the subject of organizational behavior, many students who come into a human resource management class believe their courses in heavily quantitative subjects such as accounting, finance, and operations management are the most valuable classes in their MBA program. These “quants” may even view human resource management as a “soft” class based not on any deep theories or math, but rather simple common sense.

It would be a big mistake, however, for any MBA student—or company executive, for that matter—to underestimate the role of strategic human resource management in the profit-making process. That's because despite sound financial practices, solid accounting systems, creative marketing techniques, and efficient production, many companies with a “people problem” still struggle to be competitive while companies with a sound “people strategy” grow and prosper.

Consider the Container Store. This Dallas-based retailer of boxes, bags, racks, and shelves has over two thousand employees in eleven states, and it frequently appears near the top of the list of Fortune's “100 Best Companies to Work For.” This high employee satisfaction rating has not only translated into an astonishingly low 15 to 20 percent employee turnover rate in an industry where 100 percent turnover is common. It has also motivated the company's employees to provide high levels of customer service. This, in turn, has helped the Container Store remain consistently profitable. At the heart of the Container Store's success is a company culture that puts a high value on a set of humanistic philosophies that emphasize treating others in the same way that you, yourself, would want to be treated.

Just how does the Container Store create such a positive culture? The company's focused human resource management practices begin with only hiring those individuals likely to fit the culture. To facilitate this match, over 40 percent of all new employees come recommended by current employees.

In addition, the company invests more than 235 hours of training in first-year employees. This is well above the industry average of seven hours per year.



Perhaps not surprisingly, the company also spends considerable time measuring the impact of training on store sales.

As a final major piece of the people strategy puzzle, employees are paid a full 50 percent to 100 percent above the industry average. The store also offers benefits not just to full-time employees, but to part-timers as well.

These human resource management practices have helped the company motivate employees, helped them to better understand good customer service, and ultimately helped to motivate them to provide services customers truly value. And that is in large part what this lecture is about.

Workflow Analysis

The basic tool of workflow analysis is a key first step in developing a strategic human resource management system, because it helps identify what jobs have to be performed.

The first step in workflow analysis is to identify the product, information, or service provided and how the output can be measured. Next, and working backwards from this output, the analysis identifies the activities or tasks required to produce the output. Finally, the analysis identifies the raw inputs (like materials and data), any special equipment or facilities, and, most important in a human resource management context, the human resources needed to perform that activity and produce the outputs—including the knowledge, skills, and abilities.

Besides looking at workflow, the human resource management team must also see how the work fits in with the organization's structure. Ideally, the structure brings together the people who will collaborate to efficiently produce the desired outputs. Although there are an infinite number of ways to combine the elements of an organization's structure, some general observations can be made.

For starters, if the structure is based on a function like welding, painting, or packaging, employees will tend to have low authority and work alone on highly specialized jobs. In contrast, jobs that involve teamwork or broad responsibility require a structure that is based on divisions other than functions.

More broadly, when the goal is to empower employees, the human resource management team needs to set up both structures and jobs that enable broad responsibility. Such kinds of jobs might involve employees serving a particular group of customers or producing a particular product.

To see how this works, consider the case of Suburban Hospital in Bethesda, Maryland. Suburban has sought to improve patient care by organizing work around teams.

In this team-based approach in its intensive care unit, each team includes an ICU specialist, a pharmacist, a nutritionist, a social worker, a nurse, a respiratory therapist, and a chaplain. This team goes room to room each morning, visiting every patient, sometimes accompanied by a family member. The team also meets with each patient's bedside nurse to discuss and debate the best action for this patient from all possible angles.

This team-based approach has been credited with reducing errors, shortening the time patients spend in the small twelve-bed ICU, and improving the

communications among patients, their families, and the medical staff. It has also reduced the time patients spend on ventilators by 25 percent, which is critical because the use of ventilators increases the chances of pneumonia, which in turn greatly increases both patient care costs and the chance of a patient dying.

More broadly, this case illustrates how well-designed human resource management policies can be highly cost-effective. The cost savings from avoiding complications more than offsets the increased expense associated with forming teams, and this does not even calculate the reduced amount of human suffering.

Job Analysis

Job analysis involves the process of getting more detailed information about the jobs that have been identified. Typically, a job analysis includes the tasks required as well as what HR managers refer to as the “KSAOs.” This acronym refers to the knowledge, skills, abilities of the job, and “other features” such as the context or environment in which the job is performed.

Typically, the human resource management team uses multiple sources and methods to analyze a job. These can range from observing a job and interviewing job incumbents, managers, and technical experts to reading technical manuals and even performing the job oneself.

In fact, job analysis is often thought of as the most important human resource activity. This is because the job analysis provides the critical information used to select new employees, identify the types of training employees need, determine both pay and how performance should be evaluated, and evaluate whether a team approach would be useful. Job analysis also provides information about the work environment so that any necessary safety equipment and appropriate rest breaks can be provided.

After job analysis comes the task of job design. This is a multifaceted process that involves defining how work will be performed and what tasks will be required.

Proper job design focuses on such elements as the mechanics of doing a job and economic efficiency as well as the job’s mental demands and impact on employee motivation. Note that work must also be designed ergonomically to minimize the physical strains on the employee—where ergonomics refers to the study of the interface between individuals’ characteristics and the characteristics of the physical environment.

Now here is perhaps the most important point of proper job design: It should optimize the combination of motivation, efficiency, mental capacity demands, and safety and health rather than seek to promote any one single goal.

To see why, consider that if a job is designed only to be performed as efficiently as possible, employees in those jobs may quickly find the work not to be interesting and satisfying. In a similar vein, if the work is designed only from a motivational perspective, it might require the employee to use a wide variety of skills, complete a whole piece of work from beginning to end, and allow the employee to make decisions about the way the work will be completed—but this would be an efficiency disaster.

Human Resource Planning

Human resource planning involves identifying the number and types of employees required to meet the organization's strategic objectives. In this process, human resource planning compares the present state of the business with its goals for the future. It then identifies what changes must be made in its human resources to meet those goals, where such changes may include hiring new full-time employees, outsourcing, downsizing, or training existing employees.

A critical part of the human resource planning process involves goal setting and strategic planning. These activities provide an important basis for measuring success in eliminating any labor shortages or surpluses.

In particular, for each goal, the business must choose one or more human resource strategies. Consider, for example, the problem of labor surpluses that might arise in an economic downturn. One controversial option for reducing a labor surplus is downsizing—a euphemism for layoffs and one of the most painful options for employees.

However, other options include pay reductions, a hiring freeze, offering early retirement, or natural attrition of the workforce. In contrast, options for avoiding a labor shortage range from the also aforementioned outsourcing to increased overtime, using temporary employees, and hiring new employees.

In fact, temporary employees are a popular option because they give businesses the flexibility they need to operate efficiently when demand for their products changes rapidly. In addition to flexibility, temporary employees often don't need to be paid benefits. Such benefits can account for as much as 40 percent of payroll expenses for permanent employees.

Still a third option to deal with labor shortages is outsourcing, which involves contracting with other companies—often in other countries—to provide goods or services. Consider American Airlines. It entered into a contract with U.S.-based Johnson Controls to provide five hundred ticket agents for American's operations at twenty-eight airports. The main reason was cost control. American paid its experienced ticket agents \$19 an hour plus benefits, the market rate for the airline industry. Johnson Controls paid the local labor market wage, \$8 per hour.

More broadly, technological advances in computer networks and transmission have accelerated the outsourcing process and helped it spread beyond manufacturing areas and low-skill jobs. In fact, call centers, design engineering, and information technology services are increasingly being outsourced from developed countries like the United States to developing countries such as India and China. Such outsourcing to foreign countries is, of course, known as offshoring.

In regard to the human resource management tasks of recruitment and setting various personnel policies, the big question is simply: How does an organization identify and attract potential employees?

Recruiting consists of any activity carried out by the organization to identify and attract potential employees; and the three most important aspects of recruiting include personnel policies, recruitment sources, and—and you may find this surprising—the actual traits and behavior of recruiters.

Personnel policies have an important influence not only on the characteristics of the jobs to be filled but also the willingness of potential recruits to come to work for the firm. The key decisions here include the following: (1) What emphasis should be put on internal versus external recruiting? (2) Should the firm offer the market rate of pay or “lead the market” by offering higher rates of pay? (3) Should the firm emphasize job security or retain the right to terminate employees? and (4) What images should the firm use to market the firm to prospective employees (and customers)?

Consider, for example, the issue of internal versus external recruiting. Organizations with policies to promote from within try to fill upper-level vacancies by recruiting candidates internally from within the firm. Such policies signal to job applicants that an organization will provide opportunities for advancement, both for present vacancies and later vacancies created when employees are promoted or moved to other positions. As at least one survey has shown, this type of policy turns out to be the top consideration for graduating MBA students in evaluating job offers.

In a similar vein, the level of pay and benefits are important job characteristics for almost all applicants. Clearly, businesses like the Container Store in the earlier example will have a recruiting advantage if their policy is to lead the market (that is, if these kinds of businesses offer a better total compensation package—wages plus benefits—than the current rate for a job).

As for the issue of job security, in a world of outsourcing and downsizing, there is an increasing trend toward so-called employment-at-will. This is a principle that if there is no specific employment contract saying otherwise, the employer or employee may end an employment relationship at any time, regardless of cause.

In contrast, if a business recruiting emphasizes due process, rights of appeal, and mechanisms for filing grievances, the message that the organization is sending is that it is concerned about protecting employees and job security is high. To state the obvious, companies that emphasize job security by emphasizing due process will have a leg up on their competitors in the recruitment process.

As to where a company specifically finds its recruits, external sources include direct applicants and referrals, advertisements, employment agencies, college recruiting, and websites. Internal recruitment sources include databases, management referrals, and job postings, where job postings include information about job vacancies on company bulletin boards, publications, websites, or anywhere else the company communicates with employees. Of course, many companies use a combination of both internal and external recruiting sources.

As a final piece of the recruitment puzzle, far too many MBA students who have entered the job market have been soured on the experience because of the occasional bad behavior of a recruiter.

Selection

Selection is the next phase of the human resource management process. Selection refers to the process that organizations use to choose new employees from the internal and external labor market.

Selection attempts to identify which job candidates have both the ability and the motivation to perform the job. In this regard, ability refers to the brainpower and interpersonal, technical, and administrative skills needed to perform the job, while motivation refers to whether the potential employee will have the energy, drive, and persistence to work hard on the job.

Note that some organizations with strong organizational cultures are also concerned that employees fit well into the organization. For example, Southwest Airlines wants employees who will enjoy their jobs, can work well in teams, and have a strong work ethic.

In fact, the selection process is a five-step process that involves screening, testing, interviewing, reference checking, and selecting. In the screening process, a human resource manager or the hiring manager typically starts by reviewing the job applications or resumes. The goal is to identify all candidates who meet the basic requirements of the job. Based on the job descriptions, minimal standards may include work experience, educational requirements, a set of particular skills, and so on.

In the second step, the candidates are screened and tested in any one of a number of ways. For example, cognitive ability tests are designed to measure mental abilities such as verbal skills, math skills, and reasoning ability. Work sample tests are used for jobs requiring candidates to excel at performing specialized tasks such as operating machinery, handling phone calls from customers, flying an airplane, or giving presentations. Personality tests try to measure traits such as extroversion, adjustment, agreeableness, conscientiousness, and inquisitiveness. And honesty tests attempt to determine the extent to which employees are likely to steal or misuse work time.

Depending on the particular job, such testing can be very important. For example, there is significant evidence that people who rate high on conscientiousness tend to excel at work, especially when they have high cognitive ability. Similarly, for people-related jobs such as sales and management, extroversion and agreeableness seem to be related to success.

In the third step of the process, those candidates with the highest ability and motivation are invited to the company for more detailed interviews. Often, both managers and potential colleagues or team members are involved in the interview process.

In the fourth step, the top candidates' references and background are checked to ensure that the information provided is correct. For example, does the candidate actually have the type of degree from the university they claim they have a degree from? It's a great question every firm should ask.

Background checks may also include the use of driving records, credit history, criminal record, and verification of education and employment history.

Then, in the final step, managers, colleagues, and team members typically work together to select a job candidate, or several job candidates, to receive a job offer.

Training

Once a candidate is recruited and selected, it is time to train and develop the new employee. The two big questions here are: How will employees learn

to perform their jobs? This is the training issue. Second, how will the organization prepare employees for future jobs and management positions? This is the development issue.

Training consists of an organization's planned efforts to help employees acquire job-related knowledge, skills, and abilities. Note that at least two things have to occur for training to be effective.

First, trainees have to learn the content of the training program. Second, trainees have to take what they learn and apply it to the work environment. This is known as transfer of training.

Note also that a training program can take many forms that range at one end from on-the-job training to the other end of Web-based training. But no matter what form it takes, training can benefit the organization only when it is well-linked to organization needs and succeeds at motivating employees.

The instructional design process includes these five stages: (1) assessing the training needs, (2) ensuring that employees are ready to learn, (3) planning the training program by identifying program objectives, (4) implementing the training program, and (5) evaluating the results.

For example, assessing training needs involves determining who needs training, in what they need training in, and the context in which training will occur.

As for planning the training program, this means establishing objectives, deciding who will provide the training, determining what topics the training will cover, identifying the training methods to use, and deciding on how to evaluate the training. One useful way to think about the different training methods is to consider them as falling into one of three categories: presentation, hands-on, or group-building.

In presentation methods, trainees receive information provided by the instructor or computer or other media. Examples include lectures, distance learning, and video. A problem here is that trainees tend to be passive learners in these types of training methods, and communications is primarily from trainer to the learner.

Hands-on methods actively involve the learner in training by having them practice the behavior being taught. This can include on-the-job training, simulations, role playing, and interactive learning or e-based learning using CD-ROMs or websites.

Finally, group-building methods help trainees share ideas and experiences, build group or team identity, teach an understanding of how interpersonal relations work, and allow trainees to get to know their strengths and weaknesses and those of their colleagues.

Turning to actual implementation of the training, researchers have identified a number of ways that employees will learn best. For example, employees are most likely to learn when training is linked to their current job experiences and tasks and when they understand the purpose or objectives of the program.

Feedback is also a crucial ingredient of effective learning. Trainees need to understand whether or not they are succeeding; and well-designed training helps people remember the content by breaking that content up into smaller, more digestible chunks.

Once the training program is over, it is time to evaluate the results. Approaches include measuring the trainees' satisfaction with the program, testing whether learning occurred, looking to see if any behavior has changed, and measuring results such as increased sales or profits or a decrease in accidents or increased product and service quality.

Consider, for example, how Walgreen's evaluates its training of pharmacist technicians. The company uses surveys of the pharmacists who supervise the technicians as well as sales data. The results have indicated that formally trained technicians are more efficient and wasted less of the pharmacists' time. In addition, sales in those pharmacies with formally trained technicians exceeded sales in pharmacies with technicians trained informally on the job by an average of \$9,500 dollars per year—proving at least in this case how valuable effective training programs can be.

Let's turn now to the subject of development. The development process usually starts with some type of assessment of the strengths and weaknesses of an employee. Based on this information, the human resource management team establishes goals and action plans for the development program.

A typical development program will include some combination of formal education programs like getting an MBA degree, a variety of different job experiences and relationships, and periodic assessments to help employees prepare for the future. The overarching goal of such development programs is to prepare employees for other positions in the organization.

As for the next stage in the human resource management chain, performance management, this is the process through which executives and managers ensure that employees' activities and outputs contribute to the organization's strategic, tactical, functional, and administrative goals.

Performance management systems are important because they help employees understand just what the indicators of organizational success are and exactly how they can be measured. These systems, in turn, allow the results of the performance management process to be used by the executive team to make decisions about such things as salary, discipline, termination, and recognition. Performance management also has a development purpose, meaning that it helps identify those employees who need specific kinds of development training.

As for how performance management systems might be implemented, all methods must start with decisions about who will collect and analyze the performance information. The traditional approach is for managers to gather information about employee performance and provide ratings on different performance areas as well as provide an overall measure of performance. Note, however, that other possible sources of performance management information include peers, customers, subordinates, and self-evaluation.

As to how one judges the effectiveness of a performance management system, truly effective performance management will meet a number of criteria, including both validity and reliability.

Validity refers to whether the performance management system measures all the relevant aspects of performance and whether it omits irrelevant aspects of performance. In this regard, one problem managers typically face in designing

any performance management system is that of contamination. Such contamination can occur if the system measures irrelevant aspects of performance.

For example, comparing sales people based on how many calls they make would be a contaminated measure because making a lot of calls does not necessarily improve sales or customer satisfaction, unless every salesperson makes only well-planned calls.

As for reliability, it describes the consistency of the results that the performance management system will deliver. The problem here is that if a performance measure changes over time or raters cannot agree on a rating for an employee, the system will have low reliability.

Compensation, where total compensation includes both wages and benefits, is a complex issue. The big questions here include the following: How should an organization pay its employees? And what incentives and benefits should the organization provide to ensure the goals of the organization are met?

To state the obvious, the level of compensation has a very large impact on employee attitudes as well as on behaviors such as job satisfaction and organizational commitment. It also influences what kinds of employees will be attracted to, and remain with, the organization. Moreover, by rewarding certain behaviors, compensation packages can align employees' interests with the organization's goals.

It's not just the level of wages and benefits that employees care about, however. Employees also care about the basic issue of fairness when their compensation packages are compared to what others earn. In this regard, employees consider pay a sign of status and success. Thus, they attach great importance to pay decisions when they evaluate their relationship with their employer. For all of these reasons, organizations must manage and communicate decisions about pay and benefits very clearly. Here are some of the major compensation issues.

For starters, an organization must decide how much to pay each of its employees. Once the organization broadly settles the "what to pay" issue, it then must design a pay structure. Typically, this includes some combination of pay rates, pay grades, and pay ranges.

Management Strategy

Consider the role of human resource management in the merger and acquisition process. In most mergers or acquisitions, one major goal is to achieve cost efficiencies by consolidating the work forces of the two companies through downsizing. However, these deals do not always meet expectations in part because, as research has shown, there are often thorny "people issues."

The existence of such people issues should not be surprising. Indeed, differences between the businesses involved in any deal makes conflict almost inevitable. That's why to make a merger or acquisition go smoothly, a truly strategic human resource management team will focus at least some of its training efforts on both development skills and conflict resolution.

In addition, human resource professionals have to sort out differences in the two companies' practices with regard to compensation, performance appraisal, and other human resource management issues systems. If the human

resource management team can settle on a consistent structure to meet the combined organization's goals, this may help bring employees together.

A case in point involves the Internet router king Cisco Systems. Cisco has headed off much conflict following its many acquisitions by preparing employees at the firms to be acquired. In these efforts, Cisco's team tries to make sure that employees of the acquired firm understand that major change will follow the acquisition so that they will not be surprised afterward. Cisco also addresses career paths. It provides significant roles to the acquired company's top talent in order to keep them on board with challenging opportunities. With such human-resources-related efforts, Cisco outperforms most firms in retaining talented employees after an acquisition.

Another strategic supporting role the human resource management team can play is in assisting in both international expansion efforts and maintaining global competitiveness. In today's increasingly global markets, many companies are finding that to survive, they must be able to fend off foreign competitors attempting to gain ground in their domestic market.

To meet these challenges, U.S. businesses, for example, must develop global markets, keep up with competition from overseas, and, drawing on the expertise of their human resource management teams, hire from an international labor pool and prepare employees for global assignments. Again, research has shown that companies that are successful at this and widely admired not only operate on a multinational scale. They also have work forces and corporate cultures that reflect their global markets.

These companies, which include General Electric, Coca-Cola, Microsoft, Walt Disney, and Intel, focus on customer satisfaction and innovation. In addition, they operate on the belief that people are the company's most important asset. Placing this value on employees requires that organizations emphasize human resource practices, including rewards for serious superior performance, measures of employee satisfaction, careful selection of employees, promotion from within, and an investment in employee development.

As a final example of the strategic importance of human resource management, consider the case of the dramatic turnaround of Continental Airlines. The airline, which had been struggling with low customer satisfaction and financial problems, brought in Gordon Bethune as CEO to develop a new strategy. The strategy Bethune launched had four elements:

The first element, "Fly to Win," focused on achieving profit margins in the top one-fourth of the industry. Second, "Fund the Future" involved reducing the company's heavy load of debt. The third element, "Make Reliability a Reality," meant improving the quality of the company's services to make them best in the industry, and fourth, "Working Together" focused on making the company an organization that employees were glad to work for.

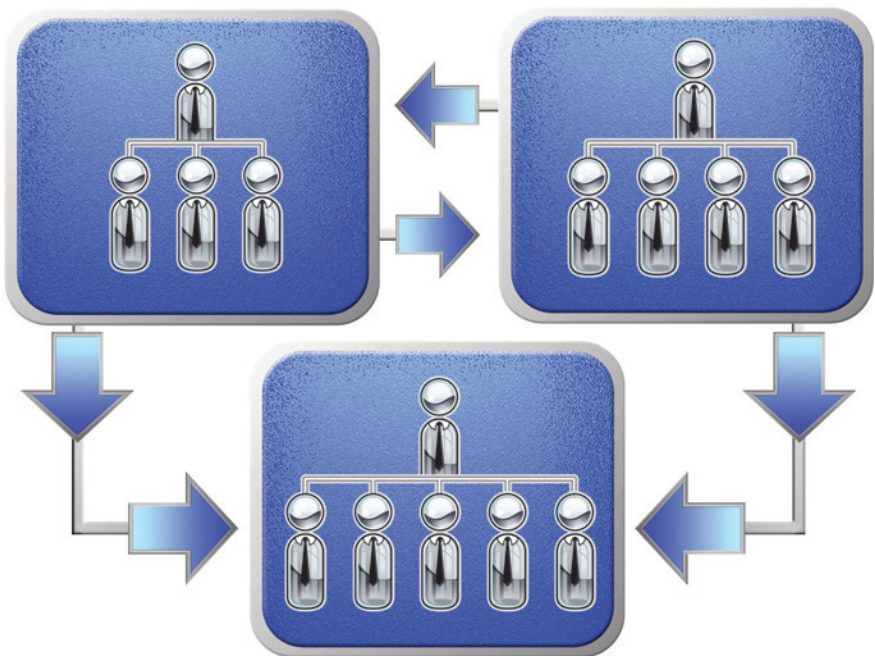
Bethune charged Continental's vice president of human resources Ken Carrig with the development of the human resource management systems and plans necessary to execute the strategy. One result was a new pay system that helped to give the company a cost advantage but also rewarded employees for doing well. In this new system, base pay was low compared with that of other airlines, but employees were eligible for bonuses and profit-sharing. If in

any month Continental ranked in the top three airlines for on-time arrivals, every employee would receive a check for \$65.

As a result of this human resource management change, employees quickly began contributing ideas to improve on-time performance, and as customers began returning to the new and improved Continental Airlines, the employees began to receive profit-sharing payments as well.

Note that despite its importance, the strategic role for human resource management identified above has evolved only gradually. In fact, in many organizations, executive teams still treat human resource professionals primarily as experts in designing and delivering human resources terms rather than as co-partners in strategic implementation.

Still, in a growing number of organizations like Cisco, the Container Store, and Continental Airlines, human resource management professionals have become strategic partners with other managers and the broader strategic executive team. This means that they use their knowledge of the business and of human resources to help the organization develop strategies and align human resource management policies and practices with those strategies. To do so well, any human resource management team must focus on the future as well as the present, and on organization goals as well as human resource activities.



Lecture 10: Management Strategy: Outfoxing Your Rivals

The **Suggested Reading** for this lecture is Daniel F. Spulber's *Management Strategy*.

Just what is strategy? Well, the word “strategy” may be defined as a long-term plan of action to achieve a particular goal—winning a political campaign, getting into Stanford Business School, or, in the corporate world, beating your rivals in the marketplace.

Note that strategies are different from tactics in that tactics are specific actions—usually taken to implement a broader strategy. In business school, the kind of strategy that you will study is known as a management strategy.

To begin, several quotes from Harvard business school professor Michael Porter may be useful. Porter is generally recognized as one of the leaders in the development of modern management strategy.

About management strategy, Porter has said, “Strategy 101 is about choices: you can’t be all things to all people.” And “sound strategy starts with having the right goal.” A bit more elegantly, Porter has also said “a strategy delineates the territory in which a company seeks to be unique.”

In explaining management strategy it is helpful to examine the five-step process of strategic analysis (Figure 10.1). Step One invariably starts with goal selection. The big question here is: “What business should your company be in?”

Step Two involves two types of analyses: The first is an external analysis of the firm’s customers, suppliers, competitors, and partners. A second complementary internal analysis addresses the question of whether your firm’s goals and strategies are actually feasible for your organization.

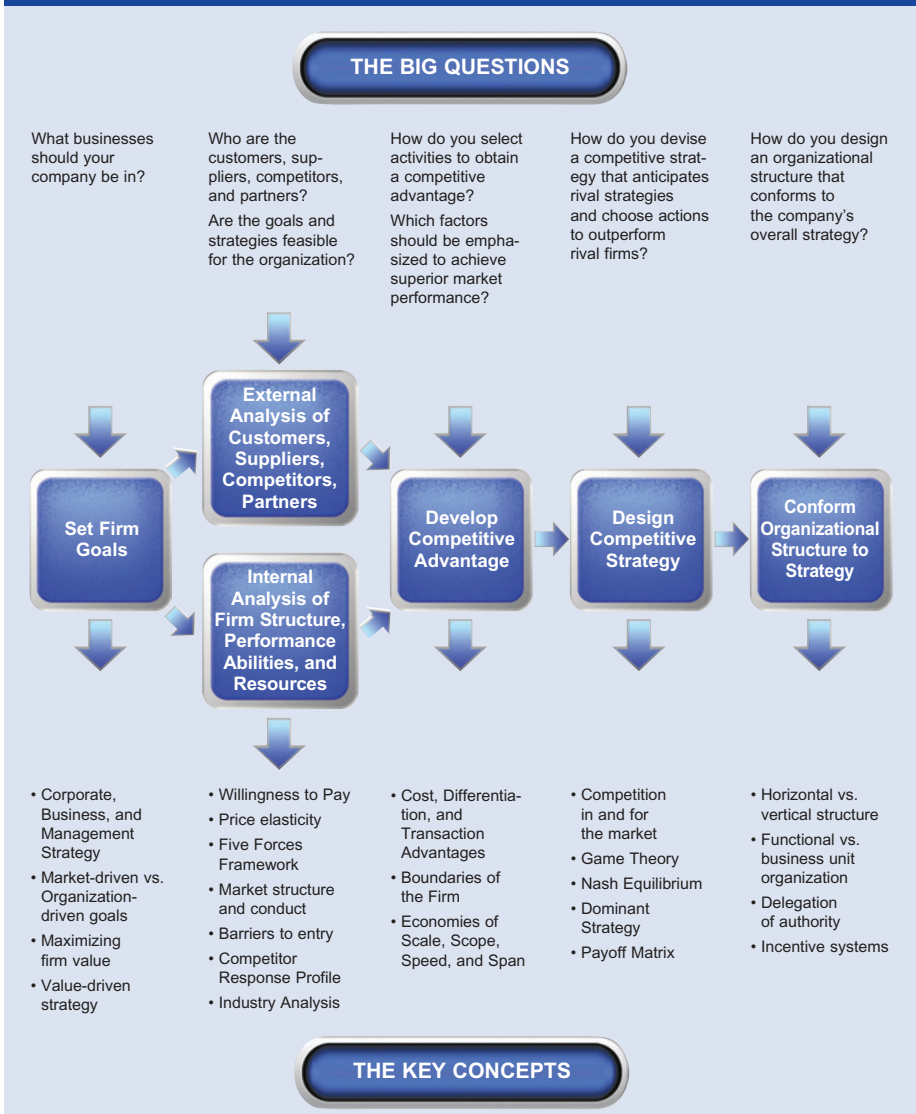
Step Three focuses on how your firm can obtain a competitive advantage against your rivals, while Step Four turns to the critical task of actually designing your competitive strategy. This step entails answering big questions such as: How do you choose actions to outperform rival firms? How do you devise a competitive strategy that anticipates strategies that might be adopted by your rivals? Which markets should your organization contest—and which should it concede to other firms? And when should new products be announced or prices changed?

Finally, in Step Five, you must answer these two questions: How do you design the organization to conform to your company’s overall strategy? And how do you delegate authority to employees and provide incentives to implement the strategy?

Step One

Before all else, the executive team must specify the organization's goals. One way to frame such goals is to do so within the context of the specific market or markets a company intends to serve. For example, your company may seek to manufacture electric power tools for household use or produce sportswear for sale in North American retail outlets.

Figure 10.1
The Five-Step Process of Strategic Analysis



Alternatively, your company's goal may be to conduct basic research in biotech for pharmaceutical companies, provide a complete line of financial services throughout Europe, serve the market for electric power generation in Brazil, or perhaps operate supermarket chains in many countries around the world.

Note that these goals are as simple as they are diverse. That's why the far more interesting question in the goal-setting process is this: How should an executive team choose the goal that best fits its company? To put this question most directly: Just what business or businesses should a firm be in?

Interestingly enough, there is no uniform way to approach this question among management strategists. Instead, there is a very interesting debate about several different possible approaches to the goal-setting process.

For example, some strategists argue that the company's goals should be market-driven. That is, the goals should be based only on the best market opportunities.

In some markets, however, the executive team may find that a market-driven strategic approach will only get them into trouble. Consider the video game market. It may look attractive to a company—but other companies might be better at designing or marketing games. In such a case, the company's goals must adapt to the abilities of the organization relative to its competitors.

As an alternative way to approach the goal-setting process, there is the organization-driven approach. This organization-driven approach serves as a very interesting counterpoint to a market-driven strategy. From this perspective, some strategists argue that the organization should only engage in those tasks that reflect the company's unique skills and core competencies, particularly those that are hard for others to copy. Such organization-driven goals are based on recognizing unique organizational abilities and resources that will help the company prevail over its competitors.

Again, however, as with the market-driven approach, organization-driven goals can get a company into trouble. This is because in some cases, there may be little demand for the things the company is actually best able to do. For example, a company may be an absolute wizard at designing and producing wooden tennis rackets—long after the market has switched to composite materials.

As still a third analytical approach to the goal-selection process, there is the value-driven method. With a value-driven strategic approach, the executive team only chooses those goals and strategies that maximize the total value of the firm for its owners or shareholders.

In this approach, the executive team uses the changing value of the company as a way of evaluating alternative goals—and as a tool to measure potential success. In this way, the value-driven approach offers a useful way to reconcile the market-driven and organizational abilities-driven approaches to the goal-setting process. In particular, to maximize the total value of the firm, the executive team will choose goals that make the best match between the firm's organizational abilities and market opportunities.

Step Two

Step Two of the strategic analysis process involves conducting both an external analysis and an internal analysis.

The external analysis always begins with an analysis of the firm's customers. Customers are the foundation of any business, and a company can only earn its revenues by providing products to satisfy customer needs. In this regard, your marketing course will be particularly helpful in providing you the tools you need to conduct this analysis.

In particular, by understanding consumer preferences, the executive team can improve the combination of features of company products. It can also adjust the variety of products that are offered as well as determine the firms' best pricing strategies. All of this adds up to competitive advantage.

The second part of the external analysis involves an evaluation of suppliers. While customers define the business, the company's suppliers are its foundation. That's why the executive team's external analysis identifies the company's suppliers with almost as much care as it gives to understanding its customers.

Indeed, the quality of the company's suppliers often makes the difference between success and failure in delivering customer satisfaction. This is because no company is an island. Instead, companies must rely on other companies for financing, services, manufactured inputs, technology, and so on.

Consider manufacturers like Ford or GM or Cisco Systems. They depend on the quality of their parts and the cooperation of their suppliers. So too do retailers like Nordstroms and Circuit City depend on the quality of the products they can resell. That's why those executive teams that understand their companies' suppliers better than their competitors do—and adjust purchases accordingly—can likewise gain a competitive advantage.

As for the third part of the external analysis, it is equally critical. This third step involves carefully evaluating one's competitors—and business history is replete with examples of firms that failed to conduct this part of the external analysis and were blindsided by new competitors.

A classic case in point is Sears versus Walmart. Despite its pioneering retail experiences, Sears did not accurately foresee the new type of retailing threat that Walmart represented. In similar fashion, despite its technological leadership, IBM did not fully understand the implications of the personal computer and the Apple-Dell-Microsoft invasion.

The broader point here is that effective strategy requires competing in markets that highlight your company's strengths relative to its potential competitors. Consider Webvan, an Internet-based grocery delivery service, which did just the opposite.

Webvan went bust trying to take on the major grocery chains. Despite its large warehouses, Webvan was not able to achieve lower costs than the supermarkets because it did not generate enough orders to actually benefit from its potential economies of scale.

As for the fourth part of the external analysis, this involves a broader “industry analysis.” This industry analysis first seeks to identify the relevant markets that the company is serving. The industry analysis then attempts to characterize the extent of competition within each of those markets using this definition. There is a catch here, however—a pretty big one. The catch is that properly defining the market is actually a very difficult process.

On the one hand, if the executive team uses a product description that is too narrow, the market definition will be too narrow as well and the company will miss the threats posed by many potential competitors. On the other hand, if the team uses a definition of the product that is too broad, the team may be distracted by perceived threats from many false competitors.

To conclude the external analysis, the executive team will seek to identify any prospective partners. Such partners may be found on both the customer and supplier sides. Possible partners also include manufacturers of so-called complementary goods with whom the company can coordinate product features, promotion, and pricing.

As a practical matter, companies can enter into either formal contractual arrangements or informal strategic alliances with partners. As an example of an informal alliance, there is the classic partnership between Hewlett-Packard and the Japanese company Canon, which invented the laser printer. Canon supplied the printer engine, and Hewlett-Packard provided the software, control technology, branding, marketing, and sales.

So far we have spent quite a bit of time on the external analysis. The internal analysis examines the company’s organizational structure, where the company’s organizational structure refers to its boundaries, divisions, lines of authority, management practices, and incentives.

The internal analysis also examines the company’s performance, abilities, and resources; and the purpose of the internal analysis is to support the decision-making process by determining two things:

First, are the company’s goals and strategies feasible for the organization?

Second, should the design of the organization be modified to adapt to the company’s strategy?

Some of the big questions in the internal analysis include: “What is the company’s current organizational structure?” “How should the company’s structure change to carry out its strategies and achieve its goals?” “How is the company performing?” and “How can the company’s performance be maintained or improved?”

Step Three

Step Three of the strategic analysis involves developing competitive advantage. To begin this critical discussion, it is important to first connect the dots between the process of maximizing the value of the firm and developing a competitive advantage. To obtain a competitive advantage, the executive team must create a greater total value for the firm than its competitors—and then be able to capture the incremental value that the firm brings to the market.

Such value for the firm has three different aspects: the benefits received by customers, the costs incurred by the company and its suppliers, and the particular combination of customers and suppliers. Now here's the big point: Achieving a competitive advantage therefore means that the firm must either increase customer benefits, lower supplier costs, or discover innovative transactions.

One of the most important ways a company can gain competitive advantage is through some type of cost advantage. A company has a cost advantage if cost efficiencies allow it to consistently outperform competitors and earn greater economic profits. By producing the same products and services at lower cost than competitors, companies can gain additional profits and still attract customers with lower prices.

In analyzing a firm's cost advantage, it is useful to focus on the four main boundaries of the firm. The key concepts that define these boundaries include economies of both scale and scope as well as economies of both span and speed.

Economies of scale refer to reductions in unit costs associated with higher levels of output production per unit of time. In the presence of economies of scale, the more you produce, the cheaper it costs to produce each unit.

Economies of scope are more subtle but no less important. The firm achieves economies of scope if it can produce two or more products or services at a lower cost than if separate firms produce them. Examples of economies of scope may be found in the joint production of, say, cars and trucks by auto makers, as well as kerosene and gasoline by oil refiners.

As for economies of span, these are achieved through greater vertical integration of activities along the value chain. A key strategic decision here is to carefully evaluate the trade-off between increased coordination resulting from in-house production versus the increased flexibility from outsourcing.

Walmart is a great example of a company with economies of span. Walmart has become a master at moving most of its products through a complex distribution system, making it a masterful vertically integrated wholesaler and retailer.

Finally, economies of speed refer to cost efficiencies that arise as a return to the scale of the company's Research & Development processes. Put simply, the more research and development a company engages in, the faster the company is able to carry out and apply technological innovations. This often gives the company a leg up on its competitors.

Beyond cost advantages, a second source of competitive advantage relates to "product differentiation." In a strategy context, the more you are able to differentiate your own product from that of your rivals, the more unique that product becomes in the market place and, everything else being equal, the higher the price you can charge for it and the greater the profits you can earn.

The rivalry between Airbus and Boeing offers an excellent example of how companies constantly jockey for competitive advantage in the area of product differentiation—in this particular case through real product differentiation achieved through technological innovation and design.

In particular, to enter the super-jumbo jet category, Airbus spent over \$10 billion to develop a completely new design embodied in its A380 aircraft. This double-decker carries anywhere from 481 to 656 passengers and features different passenger configurations.

In contrast to Airbus's "new design" strategy, Boeing initially went merely for a "stretch" and revamp of its older 747 aircraft—for less than half the cost. Boeing's underlying strategy was to counter Airbus's product differentiation and production innovation with a cost advantage. Interestingly enough, Airbus wound up eating Boeing for lunch.

Within months, Airbus got over sixty orders for its innovative super-jumbo. In the same time interval, Boeing's stretched old plane dressed up in new clothes got zero orders. In response, Boeing quickly discontinued the project and has since leapfrogged Airbus with totally new designs.

Step Four

Step Four of the strategic analysis involves choosing the competitive strategy. In this regard, it is critical to recognize that a competitive advantage based on the advantages of lower cost or superior product differentiation is far from a guarantee of success. The executive team must also have a competitive strategy to outperform its rivals in the marketplace. Indeed, many companies with lower costs and better products have been soundly defeated by more nimble competitors with better strategies.

Just what is competitive strategy? Competitive strategy refers to the actions of the firm that are the best responses to the observed or anticipated actions of competitors. Competitive strategy is a critical component of the company's overall strategy, because it specifies the company's actual market moves.

For example, should the firm emphasize prices or distinctive product features? How should the firm carry out market entry? What market segments should be targeted? And should the firm try to move before or after its competitors? In other words, competitive strategy spells out the specifics of the pricing, products, and technology needed to surpass competitors.

Competitive strategy also requires the executive team to choose the key market segments to be contested and those to be conceded to competitors. Think about it: Any attempt to dominate all segments of the market can strain a company's limited resources and increase costs—and thereby put the company at a disadvantage that can result in losing the overall strategic objective. Importantly, the competitive strategy must be suited to the market context. In particular, the choice of strategic moves depends on industry conditions. Such industry conditions range from the number of competing firms and their market power to the extent of product differentiation and the rate of technological change.

In addition, the executive team must anticipate the potential for entry of new competitors. That's why the team chooses its competitive strategy by building on market information from the external analysis.

Most broadly, in crafting a competitive strategy, the greatest unknown for the executive team is what competitors will actually do. In fact, one of the major goals of competitive strategy is to devise actions that anticipate the actions of

competitors; and a truly effective competitive strategy is one that converts a competitive advantage into a successful market outcome.

One of the most important key concepts and tools anticipating the many possible moves of your competitors taught in your MBA classes is that of game theory.

Game theory provides a method for the executive team to identify the objectives and potential strategies of competitors. It does so by encouraging managers to think ahead, particularly with respect to the sometimes inscrutable task of determining how competitors will choose their strategic responses. Game theory also helps managers determine how their company strategy should respond to those actions planned by their competitors.

In game theory, the overriding strategic principle is that the executive team must adjust its company's strategy to future possible actions of competitors—not past actions. In this endeavor, it is essential to know the goals and strategies of competing firms. It is equally essential to know the character of competing firms' top managers, because this will be useful in predicting competitor strategies.

In this effort, companies try to identify the types of strategies available to their rivals. A key question is: Are competitors most likely to vary their prices, their productive capacity, or their product features? The big idea here is that the choice of strategic instruments can change the outcome of the game significantly.

Equally critical to all of this game-theoretic strategic thinking is the consideration of the timing of the various market moves. Equally key questions here include the following:

When should a new venture be launched?

When should new products be announced and when should they be introduced?

When should a price change be put in place?

When should a promotion begin?

Should the company respond immediately to a competitor's price cuts or a targeted marketing campaign?

And should the company introduce products to the market before their rivals or try to leapfrog over competitors' products after they are introduced?

These observations indicate why game theory provides a powerful arsenal of analytical weapons to examine these kinds of strategic implications. That's precisely why you will encounter game theory in a number of your MBA courses.

Step Five

The fifth and final step of the strategic analysis involves designing—or redesigning—the appropriate organizational structure to conform to the company's strategy.

As a guiding principle, the executive team should choose the organizational form that best implements the company's strategy. After all, companies

operate in the realm of the possible. The organizational form cannot be chosen arbitrarily because the company is limited by many constraints. These constraints include the availability of qualified personnel, the costs of travel, the sophistication of the firm's telecommunications and information systems, and its legal and regulatory restrictions.

One key structural consideration is whether to organize along functional versus business unit lines. Structuring the organization along functional lines means dividing the organization into units responsible for areas such as finance, human resources, purchasing, and so on.

Note that a functional structure is often appropriate for a company operating a single business or a closely related collection of businesses. However, a functional structure tends to favor central control of the organization's activities by its managers—which can be a limited factor on entrepreneurial activity within the company.

A second key consideration relates to establishing the horizontal and vertical dimensions of the firm. A company's horizontal structure refers to the scope of the company's product and service offerings and the divisions of the organization.

For example, PepsiCo has three principal divisions: Frito-Lay Company, which is the largest manufacturer and distributor of snack chips; Pepsi-Cola Company, which is the second largest soft drink business; and Tropicana Products, which is the largest marketer and producer of branded juice.

In contrast, a company's vertical structure refers to what types of functional activities are performed by the organization and the degree of vertical integration. For example, Nike focuses its attention on product design, product development, marketing, and distribution. To achieve its goals, the company forms Category Product Teams that consist of its own designers, developers, and marketing specialists. These teams not only develop a product. They also develop a marketing plan, and this is a process that the company says takes up to a year and a half. Nike then puts together a technical package consisting of designs, patterns, and models.

Interestingly enough, Nike does not actually produce the product but instead ships the technical package to manufacturing subcontractors that operate factories throughout Europe and Asia. Then, after the products are produced, they are shipped to Nike distribution centers and finally to independent retailers. Thus, Nike emphasizes design, development, contracting, marketing, and distribution, but does not vertically integrate significantly into either manufacturing or retailing.

In thinking about the strategic implications of a horizontal versus vertical structure, recall from the first step of the strategic analysis that the executive team's choice of goals specifies what the company's target markets are. The target markets, in turn, determine which businesses the company wants to continue operating, which businesses it wants to begin operating, and which businesses it may want to cease operating. Of course, the organization must conform to these goals.

For example, if the company plans to enter a new market, the executive team must establish a corresponding business unit, adapt an existing business unit,

or acquire an existing business. By the same token, if the company plans to exit from a market, the team must close the corresponding business unit, adapt the business unit to focus on other activities, or divest the unit. The executive team's choice of goals thus helps to specify the scope of the firm.

In addition, the executive team must ensure that there are sufficient personnel to perform the necessary tasks associated with the goals and strategy. Moreover, the strategic tasks must be somehow divided among the members of the organization. In this manner, deciding how to allocate strategic tasks across the organization guides the process of organizational design.



Lecture 11: Macroeconomics: Managing the Business Cycle for Competitive Advantage

The **Suggested Reading** for this lecture is Peter Navarro's *The Well-Timed Strategy: Managing the Business Cycle for Competitive Advantage*.

In this regard, timing is everything—in love, war, and most of all, in managing the business cycle. Consider, for example, the corporate executive team that can accurately anticipate an approaching downturn in the business cycle. The team will begin to cut production and trim inventories—even as rivals are upping theirs. The team may also better be able to “right size” the company through more timely layoffs—even as rivals continue to add workers at premium wages. Nor will such an executive team embark on an overly aggressive capital expansion program at a time when cash flow is likely to soon begin falling and borrowing costs are at their highest.

These virtues of better managing the business cycle notwithstanding, an obvious problem is this: It often seems very difficult to determine your company's place in the business cycle at any given time—much less accurately anticipate future movements in that cycle. That's precisely where a deeper and richer understanding of the subject of macroeconomics can be so very useful.

The Two Branches of Economics

To begin to cultivate this richer understanding, note that the subject of economics is divided broadly into two distinct branches.

One branch is called microeconomics, and that topic will be explored in the next lecture under the heading of managerial economics, which is simply microeconomics for managers.

Microeconomics is the province of economists like Adam Smith, and the subject covers the functioning of individual markets for goods and services—from shoes and pizza to insurance. It explains how such markets are organized and how production costs and market prices are determined.

In contrast, macroeconomics is the world of economists like Lord John Maynard Keynes and Milton Friedman. This branch of economics focuses on movements of the business cycle and the implications of such movements for economic growth, inflation, recession, productivity, budget deficits, trade deficits, and the value of the currency.

Now here's a key policy difference between microeconomics and macroeconomics. In microeconomics, the typical presumption among mainstream economists is that the forces of supply and demand in a market will, in many cases, eliminate any shortages or surpluses in that market.

In contrast, most mainstream macroeconomists believe the broader macroeconomy is not always self-correcting. Instead, in many cases and for possibly long periods of time, an economy can suffer from chronic unemployment or galloping inflation or burgeoning trade deficits and, absent government intervention, the situation may not improve—and may even get worse. Thus,

it may be necessary for the government to stimulate the economy out of a recession or purposefully rein in the economy to curb inflation or devalue the currency to improve the trade balance.

This the government does through the application of discretionary policy tools such as fiscal and monetary policies.

Fiscal policy uses increased government expenditures or, alternatively, tax cuts to stimulate or expand the economy. Fiscal policy can also be used to contract the economy and fight inflation by reducing government expenditures or raising taxes.

Monetary policy, on the other hand, uses control over the money supply to achieve similar goals while various exchange rate policies can be used to lower the value of the currency to stimulate the sale of exports or increase the value of the currency to attract more foreign capital.

The twenty-first-century discretionary application of fiscal and monetary policy by the government has a long history that dates back to the late 1700s and has its roots in the *laissez faire* writings of free market economists like David Ricardo and Jean Baptiste Say.

These Classical economists believed that the problems of recession and unemployment were a natural part of the business cycle, that these problems were self-correcting, and, most importantly, that there was no need for the government to intervene in the free market to correct them. And this approach actually seemed to work, albeit imperfectly, until the Great Depression of the 1930s.

With the stock market crash of 1929, the global economy fell into first a recession and then a deep depression. While Classical economists kept waiting for what they viewed as the inevitable recovery, British economist John Maynard Keynes flatly rejected the Classical notion of a self-correcting economy.

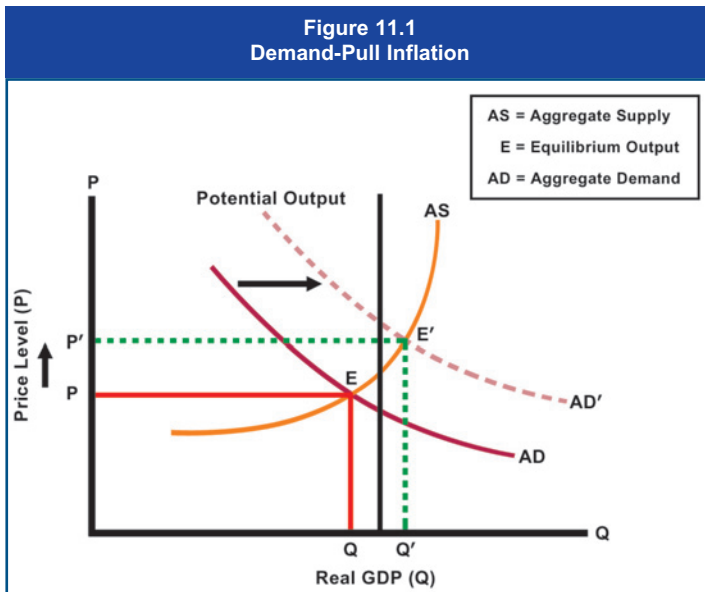
Instead, Keynes believed that the global economy would not naturally rebound but simply stagnate or, even worse, fall into a death spiral. In his view, the only way to get the economy moving again was to prime the economic pump with increased government expenditures. Thus, fiscal policy was born and the Keynesian prescription became the underlying, if unstated, philosophy of global economic recovery.

In the United States, for example, Franklin Delano Roosevelt's Keynesian "New Deal" public works programs in the 1930s, together with the 1940s Keynesian boom of World War II expenditures, were enough to lift the American economy out of the Great Depression and up to unparalleled heights. In the 1960s, pure Keynesianism reached its zenith with the much heralded Kennedy Tax Cut of 1964.

This Keynesian tax cut to stimulate demand helped make the 1960s one of the most prosperous decades in America as business boomed. However, this aggressive fiscal stimulus also laid the foundation for the emergence of a new and ugly macroeconomic problem that, as it would troublingly turn out, Keynesian economics would be totally incapable of solving. This problem, which would absolutely ravage the business community, was stagflation—simultaneous high inflation and high unemployment.

The stagflation problem had its roots in President Lyndon Johnson's stubbornness. In the late 1960s, against the strong advice of his economic advisors, Johnson increased expenditures on the Vietnam War but refused to cut spending on his Great Society social welfare programs. This refusal helped spawn a virulent demand-pull inflation.

The essence of demand-pull inflation is "too much money chasing too few goods," and that is exactly what happened when the United States tried to finance both "guns and butter"—both the Vietnam War and the Great Society. This situation is illustrated in Figure 11.1.



This figure employs one of the typical tools you will be introduced to in your MBA macroeconomics course. This is the Aggregate Supply-Aggregate Demand framework.

In this framework, the price level is represented on the vertical axis and the economic output or gross domestic product of the economy is represented on the horizontal line. You can see that the production side of the economy is represented by the aggregate supply or AS line. Note that it slopes upward with price—meaning, intuitively, that producers will be willing to supply more as the price level rises.

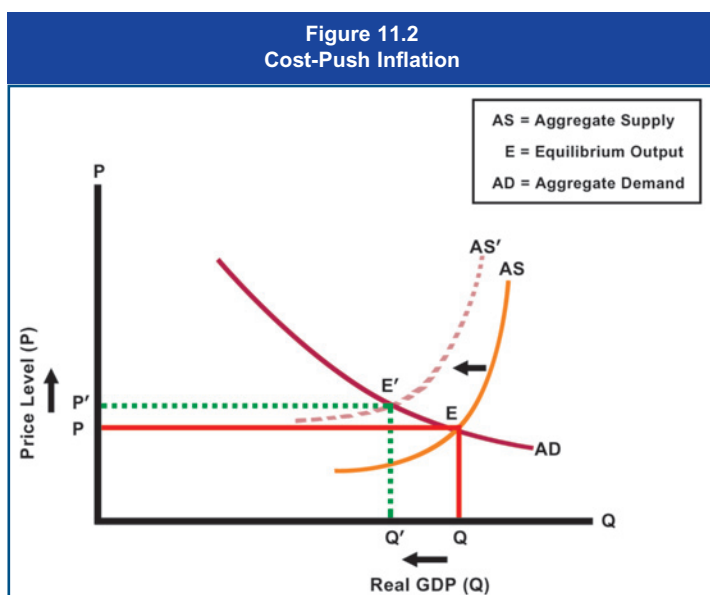
In contrast, the demand for that production by consumers, the business community, the government, and foreigners is represented by a downward-sloping aggregate demand curve, which indicates equally intuitively that demand will fall as prices rise.

Now in this example of demand-pull inflation, increased government spending on both guns and butter moves aggregate demand outward from AD to AD' , and equilibrium output increases from E to E' as real GDP expands.

However, when real output rises far above the economy's *potential* output, the price level moves up sharply as well, from P to P' . This is a clear case of demand-pull inflation, and the Keynesian cure for such demand-pull inflation is quite simple: cut government spending or raise taxes to pull back aggregate demand.

Contrast this demand-pull inflation with a very different kind of inflation that began to emerge in the early 1970s—one that posed a much more intractable problem for Keynesian economists. This is cost-push inflation, and it is very important for business executives to be able to distinguish between demand-pull and cost-push inflation. This is because the remedies have quite different implications for the business climate.

Cost-push inflation occurs when factors such as rapid increases in raw material prices, oil price shocks, falling productivity, and/or wage increases drive up production costs. In this situation, it is the aggregate supply curve that shifts outward rather than the aggregate demand curve, as we illustrate in Figure 11.2.



Here we see that sharply higher oil, commodity, and labor costs greatly increase the costs of doing business. These higher production costs are represented by a shift of the aggregate supply curve up from AS to AS' as the equilibrium shifts from E to E' . Note that output correspondingly declines from Q to Q' while prices rise. This is stagflation—recession or stagnation combined with inflation. In this situation, the economy suffers the double whammy of both lower output and higher prices.

Now here's the very important punch line: Before the 1970s, economists didn't believe you could have both high inflation and high unemployment at the same

time. If one went up, the other had to go down. But the 1970s proved economists wrong on this point and likewise exposed Keynesian economics as being incapable of solving the new stagflation problem.

The Keynesian dilemma was simply this: using expansionary policies to reduce unemployment simply created more inflation while using contractionary policies to curb inflation only deepened the recession. That meant that the traditional Keynesian tools could solve only half of the stagflation problem at any one time—and only by making the other half worse.

It was this inability of Keynesian economics to cope with stagflation that set the stage for Professor Milton Friedman's monetarist challenge to what had become the Keynesian orthodoxy.

Friedman argued that the problems of both inflation and recession may be traced to one thing—the rate of growth of the money supply. To Friedman's Monetarists, inflation happens when the government prints too much money and recessions happen when it prints too little.

From this Monetarist perspective, stagflation is the inevitable result of activist fiscal and monetary policies that try to push the economy beyond its so-called natural rate of unemployment—defined as the lowest level of unemployment that can be attained without upward pressure on inflation.

According to the Monetarists, expansionary attempts to go beyond this natural rate of unemployment may result in short-run spurts of growth. However, after each growth spurt, prices and wages rise and drag the economy back to its natural rate—but at a higher rate of inflation.

Over time, these futile attempts to push the economy beyond its natural rate of unemployment led to an upward inflationary spiral. In this situation, Monetarists believe that the only way to wring inflation out of the economy is to have the actual unemployment rate rise above the natural rate. That means only one thing—which, by the way, should absolutely horrify any business executive. That's because that way to control inflation is to purposely induce a recession.

This is at least one interpretation of what the Federal Reserve did in the United States beginning in 1979 under the Monetarist banner of setting monetary growth targets. Under Chairman Paul Volcker, the Fed adopted a sharply contractionary monetary policy and interest rates soared to over 20 percent. Particularly hard-hit were small businesses and interest-rate-sensitive sectors of the economy like housing construction, automobile purchases, and business investment—and if your company happened to be in one of these sectors at the time, it may not have survived the government's monetary policy "cure."

That is just one reason why the Fed's bitter medicine worked; three years of hard economic times left a bitter taste in the mouths of the American people, hungry for a sweeter macroeconomic cure than either the Keynesians or Monetarists could offer. Enter stage right: the conservative school of supply side economics.

In the 1980 presidential election, Ronald Reagan ran on a supply side platform that promised to simultaneously cut taxes, increase government tax

revenues, and accelerate the rate of economic growth without inducing inflation—a very sweet macroeconomic cure indeed.

On the surface, the supply side approach looks very similar to the kind of Keynesian tax cut prescribed in the 1960s to stimulate a sluggish economy. However, the supply siders viewed such tax cuts from a very different behavioral perspective. Specifically, they believed that people would actually work much harder and invest much more if they were allowed to keep more of the fruits of their labor. The end result would be to increase the amount of goods and services the economy could actually produce by pushing out the economy's aggregate supply curve—hence, supply side economics.

In such a scenario, the supply siders promised that by cutting taxes and thereby spurring rapid growth, the loss in tax revenues from the tax cut would be more than offset by the increase in tax revenues from increased economic growth. Thus, under supply side economics, the budget deficit would actually be reduced

Unfortunately, during the Reagan years, that didn't happen. While the economy boomed, so, too, did America's budget deficit. And as the budget deficit soared, America's trade deficit soared with it.

These so-called twin deficits deeply concerned Reagan's successor, George Bush, particularly after the budget deficit jumped over \$200 billion at the midpoint of his term in 1990, and the economy began to slide into recession.

To any red-blooded Keynesian, this onset of recession would have been a clear signal to engage in expansionary policy. However, in the Bush White House, Ronald Reagan's Supply Side advisors had been supplanted not by Keynesians but rather by a new breed of macroeconomic thinkers—the so-called "New Classicals."

New Classical economics is based on the controversial theory of rational expectations. This theory says that if you form your expectations "rationally," you will take into account all available information—including the future effects of activist fiscal and monetary policies.

The idea behind rational expectations is that such activist policies might be able to fool people for a while. However, after a while, people will learn from their experiences, and then you can't fool them at all. The central policy implication of this idea is, of course, profound: rational expectations render activist fiscal and monetary policies completely ineffective, so they should be abandoned.

Accordingly, Bush's New Classical advisors flatly rejected any Keynesian "quick fix" to the deepening recession. Bush took this New Classical advice to heart. The economy limped into the 1992 presidential election and, like Richard Nixon in 1960, Bush lost to a Democrat promising to get the economy moving again. What is perhaps most interesting about this transition of power is that newly elected President Bill Clinton actually did very little to stimulate the economy. The mere fact, however, that Clinton promised a more activist approach helped restore business and consumer confidence.

The Clinton recovery ended with the 2001 recession—ironically under the presidency of George Bush's son, George Walker Bush. Over the next several

years, the younger Bush, together with Federal Reserve Chairman Alan Greenspan, would engage in one of the most dramatic double doses of fiscal and monetary policy the United States has ever witnessed.

The result would be historically low interest and mortgage rates and a housing bubble that would burst with devastating effects for the global economy.

The broader point is that the discretionary application of fiscal and monetary policies has a tremendous impact on movements in the business cycle and the broader business climate within which any business operates.

The Business Cycle

A nation's gross domestic product (GDP) measures its economic output. The real GDP is the GDP adjusted for inflation, and the growth in the real GDP is the way macroeconomists universally measure the overall strength or weakness of an economy.

For example, a GDP growing at an annual rate of about 3 percent annually reflects solid economic growth in a developed country like the United States, while growth of the GDP can be as high as 10 percent in a developing country like China or India. Of course, if the GDP growth rate is negative, that means the economy is technically in recession.

As to how the GDP is calculated, it is a simple equation that goes as follows:

GDP equals consumption plus business investment plus government spending plus "net exports," where net exports equal the amount of exports a nation sells to foreigners minus the amount of imports it buys.

The importance of this equation lies in the fact that it identifies the four important components of growth—and note that we will soon come back to this equation in our discussion of how business executives can use so-called leading economic indicators to try to forecast movements in the business cycle.

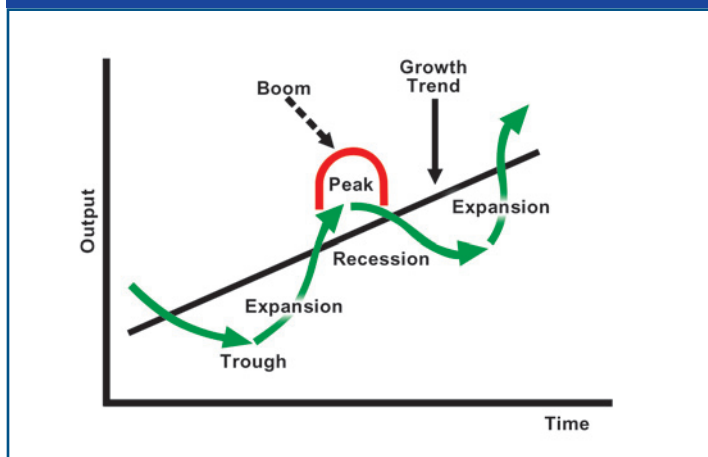
In this regard, it is precisely such movements of the GDP that define the business cycle, which quite literally charts the recurrent ups and downs in the real GDP over time. During this cycle, the fortunes of most corporations quite literally ebb and flow with the level of economic activity. And while individual business cycles vary substantially in length and intensity, all display common phases, as illustrated in Figure 11.3.

You can see from that figure that the cycle looks like a roller coaster. There is a "peak," where business activity reaches a maximum; a "trough," which is brought about by a recessionary downturn in total output; and a "recovery," or upturn in which the economy expands toward full employment. Note that each of these phases of the cycle oscillates around a "growth trend" line.

A central concern of both macroeconomists and business executives is to determine just what macroeconomic policies will be used to control or harness the business cycle—and business executives take a keen interest in the specific policies that may be adopted.

This is because a central concern of business executives is to determine whether the economy is going into a recession or expansion—with a right guess in business often being the difference between a big profit and a big

Figure 11.3
Business Cycle Phases



loss. That's why many businesses rely on various economic forecasting services and leading economic indicators to help them plan all of the various business-cycle-sensitive decisions of the firm—from inventory and production to marketing and capital expansion.

In addition to using macroeconomic forecasts, business executives can also follow a variety of so-called leading economic indicators. Leading indicators are named as such because they actually tend to move in anticipation of movements in the business cycle.

Take housing starts, for example. They usually start to fall months before the economy actually enters a recession. They also tend to perk up several months before the emergence of a full-blown recovery. That's why they are considered a great leading indicator of recession and expansion.

Now one of the easier ways for business executives to follow the progress of the leading indicators is to keep a close watch on the Conference Board's Composite Index of Leading Economic Indicators. This well-known composite indicator seeks to forecast movements in the business cycle by charting the movements of ten individual leading indicators as they relate directly or indirectly to the conduct of fiscal and monetary policy as well as to the various different components of the GDP equation that we discussed earlier.

For example, one of the individual leading indicators in the composite is an "index of consumer expectations." This consumer confidence measure speaks to the likely strength or weakness of the consumption portion of the GDP equation.

The broader point here is that when this composite leading indicator has turned down for three to five months in a row, that can signal a coming recession, while a sustained upturn in this indicator can signal recovery and economic expansion.

To complete this lecture, it will be helpful to examine how the modern executive team might go about the very serious business of using a mastery of macroeconomics to better manage the business cycle. The key here is to know when to apply a set of business cycle management principles and practices over different phases of the business cycle. Here's just a small sample of these practices.

Consider inventory control and production. When a recession hits, it is of course costly to be caught with large amounts of product inventory. It can be equally costly—from a foregone revenue point of view—to be caught with too little inventory as the economy recovers. Accordingly, the executive team may begin to cut production and trim inventories in anticipation of a recession and may begin to increase production and build inventories in anticipation of a recovery.

Now what about human resource management? Here, just as the executive team tries to avoid being caught with an inventory overhang, it also may want to begin to prepare for layoffs well before a recession actually hits. Accordingly, the executive team may begin to trim the work force along with inventories in anticipation of a recession—even as rivals continue to hire at premium wages. Perhaps more subtly, the team may also begin to hire sooner than competitors in anticipation of an upturn. At this point in the cycle, a company may be able to proactively “cherry pick” from the relatively larger pool of unemployed labor.

As far as pricing the business cycle, there is a huge trap many business executives fall into. This trap is to try to raise prices when the economy starts to go soft and company revenues fall. In fact, a price increase in the face of “elastic” product demand will actually decrease—rather than increase—total revenues. This most basic lesson in economics often goes unheeded by desperate executives in a downturn who try to compensate for falling revenues by raising prices in the face of increasingly elastic demand.

Lecture 12: Managerial Economics: Microeconomics for Managers

The **Suggested Reading** for this lecture is James Brickley, Jerold Zimmerman, and Clifford W. Smith, Jr.'s *Managerial Economics and Organizational Architecture*.

A CEO desperate to pump up the bottom line of his failing company raises product prices to boost profits. Instead, profits plunge, and the bewildered CEO has no idea what microeconomic truck just hit him.

Then there is the charismatic entrepreneur at the helm of a small, upstart startup. He decides to enter a market dominated by a few deep-pocketed, well-branded oligopolists. This budding “war” is over almost before it starts as the market leaders bury the startup with a retaliatory advertising blitz and deep price cuts.

These are just some of the many mistakes business executives make when they fail to learn the incredibly valuable lessons of managerial economics.

Demand, Pricing, and Marketing

The most important graph in all of microeconomics is the graph of supply, demand, and equilibrium for computer chips (Figure 12.1).

Note first in the figure that the supply curve slopes upward. As the offered price goes up, suppliers are willing to offer more chips in the market. This, of course, is a highly intuitive result, because at higher prices, more inefficient and costly chip producers are able to make a buck by producing more.

By the same token, the demand curve slopes downward. This means that the lower the price, the more computer chips consumers will be willing to buy. This makes a lot of sense, too. In this case, manufacturers that can buy cheaper chips for their electronic products can sell the products at a cheaper price and therefore sell more of the products. That drives their demand for chips up.

As for the equilibrium price in the market, that may be found at the intersection of supply and demand at a price of P_C . At a higher price, suppliers will produce more than consumers will demand, so the price will be bid back down to P_C . At a price lower than P_C , demand will be greater than supply and consumers will bid prices up.

That's pretty elementary, but now make things a bit more interesting by looking more closely at the demand side of the equation. In particular, two key concepts—demand shifts and price elasticities—are critical to the pricing decisions of firms.

Regarding the notion of demand shifts, suppose you open up your morning newspaper and see on the front page these stories: (1) A large number of U.S. troops will be sent to the Middle East to combat a dramatic rise in urban guerrilla warfare and terrorism, and (2) A new study on the health effects of

red wine indicates it is a powerful aphrodisiac when combined with Korean ginseng. In the wake of this news, what do you think will happen to the demand for ceramic body armor and red wine?

Of course, demand will go up. But how can this increase in demand be represented in the standard supply-demand figure? Precisely by the outward shift of the demand curves for body armor and red wine.

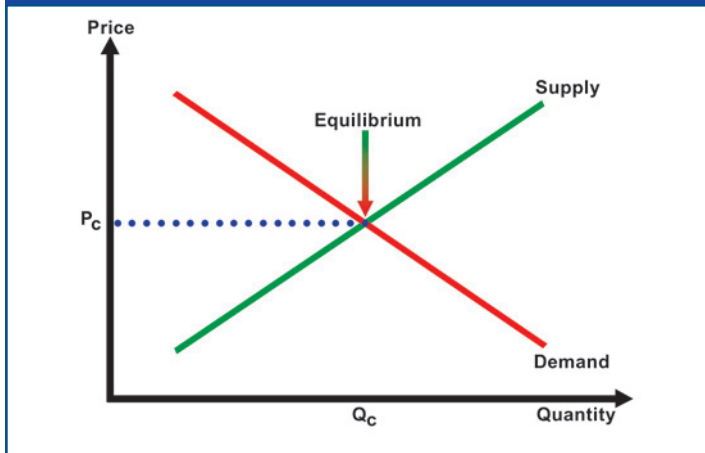
The importance of these shifts is simply that the equilibrium price in the market will change. If you are in one of the affected businesses, you must learn to anticipate such shifts and quickly change your prices accordingly.

Now, what about the actual slope of the demand curve? How might it affect your pricing and marketing decisions? That is where the key concept of the price elasticity of demand comes in.

The price elasticity of demand measures how much consumers will increase or decrease their quantity demanded in response to a price change. A big change means demand is elastic, like the rubber band, and the corresponding demand curve is relatively flat. In contrast, a small change in demand for a big price change means demand is inelastic and the corresponding demand curve is more vertical.

Now here is the idea that lies at the very heart of determining whether a price hike is likely to lead to higher total revenues and profits. If demand is elastic, a price hike will lead to just the opposite result that is desired—not higher, but rather lower total revenues and profits. And that's exactly what happened to the fictional and desperate CEO in the opening vignette of this lecture.

Figure 12.1
Supply, Demand, and Equilibrium for Computer Chips



The reason this happens is that the total revenues of a company are calculated by multiplying the price of a good by its quantity sold. If you raise the price by a certain percentage and the quantity sold falls by an even greater percentage, the result is lower total revenues in the face of a price hike. That's exactly what happens when demand is highly elastic or price sensitive.

In contrast, with a very inelastic demand, the demand curve is nearly vertical. In such a case, consumers respond to an increase in price by continuing to buy almost the same amount of the product.

Such inelastic demand more or less fits the description of products ranging from illegal drugs like cocaine and heroin to legal drugs like cigarettes, alcohol, and heart medication. The idea is simply that "people gotta have it no matter what," so they will continue to buy as much or almost as much of the product if prices are jacked up. Of course, because the firm is selling almost the same amount of the product but at a higher price, profits must go up.

It's not just pricing strategies that the concept of elasticity of demand can help with. It's also broader marketing strategies. For example, why do you think that many airlines offer fare discounts to people who stay over on a Saturday night?

It's because airlines are trying to sort out two different kinds of customers: business people with more inelastic demands who want to fly home on the weekends and be with their families versus pleasure travelers who don't mind staying over on a Saturday night. By making this separation, the airlines can effectively charge two prices: a higher one to business travelers and a lower one to pleasure travelers. This means more total passengers and more total revenue.

Turning to the supply side of the market equilibrium equation—that part of MBA managerial economics that teaches production theory. To begin, suppose that tomorrow morning you wake up and find yourself as the main character in a Steven Spielberg movie called *Back to the Business Future*. You're a refugee from the new millennium, circa 2010 AD, and you find yourself smack dab in the middle of 1972 shortly before the OPEC oil cartel slapped an embargo on the American economy.

Your only possessions are the design and engineering blueprints of a highly energy-efficient automobile—blueprints that your mad scientist buddy stuffed in your hands just before he accidentally catapulted you back to one of the worst decades in American economic history. Some friend, huh?

Now to round out this plot, assume that the only way you can save the planet from a rapacious foreign cartel—and also get back home to your family and friends—is to make a hundred million bucks producing these energy-efficient cars. How do you do it?

The first thing you have to settle on is your "recipe" for producing the car. This recipe is called the production function, and in technical terms, it specifies the maximum output that can be produced with a given quantity of inputs for a given state of engineering and technical knowledge.

In a typical production function, Q is the quantity of cars you want to produce, K is the capital or plant and equipment that you will need for the production, L is the number of employees or quantity of labor, and R is a catch-all term for things like raw materials and energy.

As for the production function itself, it summarizes the state of the current technology. The more advanced the technology, the more output you will be able to produce for a given mix of labor, capital, and resource inputs.

Now the questions facing you are: What combination of inputs are you going to choose and, by implication, what will be the size of your automobile plant? To answer these questions, we first have to distinguish between the short run and the long run.

To illustrate the short run, suppose the factory for your energy-efficient auto is already up and running and producing ten thousand cars a year. Further suppose that the Organization of Petroleum Exporting Countries—that nasty OPEC cartel—slaps an embargo on the United States and quadruples the price of oil—just as it did in 1973 and 1974. At this point, demand starts to increase dramatically for your cars as consumers seek to substitute your Gas Miser for their gas guzzlers. What do you do?

In the short run, you add two more shifts, hire more workers, and use more energy and raw materials as you try to run your plant around the clock to meet increased demand. In fact, in the short run, this is your only option because it would take over a year to build a new factory. And that's the definition of the short run. The short run is the period in which firms can adjust production only by changing variable factors such as materials and labor but cannot change fixed factors such as capital.

In contrast, the long run is a period sufficiently long enough so that all factors in the production function, including capital, can be adjusted. In this case, it is the time it would take for you to expand your existing factory or build a new one. This distinction between the short and long run is important in production theory because each period has its own kind of cost analysis.

In thinking about production cost analysis, it is useful to distinguish between variable costs, fixed costs, and marginal costs. Fixed costs are those costs that do not change with the level of output. Examples include rent, insurance premiums, and the salaries of top management.

Variable costs are simply those costs that change with the level of output. For example, when you increase production to meet demand, you have to pay for more raw materials and fuel.

As for marginal cost, it is simply the additional cost incurred in producing one extra unit of output. What is interesting about the pattern of costs is that while fixed costs stay the same, both variable and total costs rise with production while marginal costs first fall and then rise. So how would you explain this pattern?

The answer lies in another key concept: the law of diminishing returns. What is this law? In the context of production theory, you have to first remember that in the short run, capital is fixed but factors like labor are variable. In such a situation, adding more workers means that each additional unit of labor has

less capital to work with. At some point, however, as the factory floor gets crowded with workers, the extra or marginal product of each additional worker must begin to decrease so production per unit becomes costlier. That's the law of diminishing returns.

As you will learn in great detail in your managerial economics course, both marginal costs and the law of diminishing returns are critical in determining the most efficient forms of production in the short and long run.

In long-run cost analysis, another key concept is that of economies of scale—a concept touched on in previous lectures. The concept of economies of scale is particularly important in understanding why the government regulates some industries like electric utilities and the railroads but doesn't regulate the airlines or trucking.

In particular, some industries in which economies of scale are quite large are so-called “natural monopolies.” With a natural monopoly, unit costs steadily fall over the entire range of production for the market. In this case, bigger producers will drive out smaller producers until there is only one producer left—the infamous monopolist.

The result of this so-called market failure is that price will be set too high and output too low for market efficiency, and government regulation may be warranted. That's why there are regulated natural monopolies like the railroads and electricity and gas distribution.

The broader point here is that the shape of an industry's long-run average cost curve has an enormous influence on the structure of that industry: Will it be competitive, oligopolistic, or monopolistic? And that would seem to be an excellent segue to our next set of managerial economics decisions—those involving market entry, exit, and broader strategic issues.

Market Entry, Exit, and Strategy

To help analyze entry and exit decisions, a key concept known as the structure-conduct-performance paradigm is illustrated in Figure 12.2. The powerful idea behind this paradigm is that the structure of a market—for example, whether it is highly competitive or monopolistic—will determine market conduct with respect to both strategic and tactical decisions regarding pricing, output, and entry. Moreover, conduct and strategy will, in turn, determine market performance with respect to the industry's level of profits and rates of return, the rate of technological change and innovation, and the level of capital investment as well as broader public policy yardsticks related to market efficiency and equity.

Market structure refers to how many firms are in an industry, whether the firms are big or small, what the firm's cost structures look like, and how market share is divided among the firms. The four major types of market structure include perfect competition, monopolistic competition, oligopoly, and monopoly.

Figure 12.3 illustrates the four basic forms of market structure, their underlying assumptions, the types of conduct one is likely to observe, and the performance business executives can expect.

Figure 12.2
Structure–Conduct–Performance Paradigm

How many firms in the industry?
Are firms big or small?
What is the cost structure?
What is the distribution of market share and market concentration?

Are the firms price takers or price makers?
Are prices set closer to the competitive or monopolistic outcome?
Do firms collude to restrict output?
Do firms deter the entry of rivals?

How will consumers, producers, and the broader society fare given the market structure and the conduct that flows from it?



Figure 12.3
The Four Basic Forms of Market Structure



From the business executive's point of view, the most important feature of each form of market structure is the degree of pricing and market power that each endows upon participants in that market. Put simply, if you are stuck in a perfectly competitive market, you won't have a lot of room for strategic maneuvering and will spend the bulk of your time minimizing your costs. But find yourself in an oligopolistic or monopolistic position, and let the strategic games begin.

It is illuminative to delve a little deeper into the question of what exactly determines a market's structure, beginning with the left-hand side of Figure 12.3 and the basic assumptions underlying the polar case of perfect competition.

Arguably the most important requirement of perfect competition is numerous buyers and sellers. When this assumption is met, any one firm's output is miniscule compared to the market output—like a grain of sand compared to a beach. Therefore, what one firm does has no influence on what other firms do. This condition is important because it is one of the primary reasons why perfectly competitive firms are price takers rather than price makers in the market.

A second important assumption of perfect competition is that of a homogeneous product where each firm's output is indistinguishable from any other firm's output. Examples include commodities such as wheat and coal. In contrast, you can buy thirty different brands of differentiated products. Soda is not soda, it's 7-Up or Coke. Cars are not cars; they are Fords and Volvos. And so on.

The homogeneous product assumption is important because it means that every firm in the industry is selling exactly the same product so that the only thing that firms can compete on is price and not on other things such as product design and product quality. As we shall see, a key difference between perfect competition and monopolistic competition is that with monopolistically competitive firms, products are differentiated and nonprice competition is common.

Still a third important assumption is that of free entry and exit: additional firms may freely enter an industry when prices and profits rise and just as easily exit the industry in the presence of losses. For this free entry condition to hold, there must be no barriers to entry. Such barriers range from exclusive patents and the large capital requirements symptomatic of natural monopolies to the ownership of valuable resources such as the bauxite reserves owned by Alcoa, the world's largest aluminum producer.

Given a market structure of perfect competition, what kind of conduct with respect to pricing can we expect? The answer is that price will be set to a firm's "marginal cost" of production, that is, $P = MC$. Moreover, this pricing scheme will be economically efficient because the market is allocating resources efficiently and consumers will receive the most output at the best price.

We do not get such a happy result for consumers and society, however, at the other end of the spectrum, where monopoly exists. This is when there is only one seller in the market selling a product for which there are no close substitutes. In such a case, the monopolist is a price maker, meaning that he or she exerts considerable control over what the market price will be. And

please note, the monopolist wields this power by controlling the quantity supplied in the market.

In this regard, the monopolist has a quite different pricing rule. The monopolist will not set price equal to its marginal cost but rather to its higher marginal revenue, where marginal revenue is simply the amount of revenue obtained by selling the last unit at higher than marginal cost. The result is that consumers pay a lot more for a lot less—while the monopolist earns profits well above that of the perfect competitor.

While perfect competition and monopoly are useful subjects of study for fixing ideas about market structure, they are more the exceptions, rather than the rule, in most global economies. Indeed, most industries fall somewhere in between these two extremes and can be classified either by monopolistic competition or oligopoly.

To analyze the strategic implications of oligopoly, begin with this question: What do these industries have in common: disposable diapers, chewing gum, cigarettes, electric razors, car rentals, batteries, soft drinks, credit cards, razor blades, toothpaste, beer, soap, coffee, canned soup, and spaghetti sauce? If you guessed that all of them are oligopolies, go to the head of the class.

Oligopoly exists when a small number of typically large firms dominate an industry. The central element of oligopoly is the strategic interactions that might arise through either explicit or tacit collusion over price, output, and market entry and exit.

Strategic interaction is a term that describes how each firm's business strategy depends on their rivals' strategies. Put simply, as the number of firms in an industry shrink and industry concentration grows, the executives of each firm are more likely to base their pricing and output decisions more on how other firms in the industry are likely to respond.

With this mutual interdependence recognized, the executives of each firm are more likely to want to collude when setting price and quantity—where collusion may be defined as the concerted actions by such executives to restrict output and fix price.

Now, here's the important point: Because of the small number of firms in an oligopoly, collusion is possible.

Now what about monopolistic competition? The defining characteristics of monopolistic competition are: (1) a relatively large number of sellers; (2) easy entry to, and exit from, the industry; and (3) product differentiation. The first and second characteristics provide the "competitive" aspect of monopolistic competition while the third characteristic contributes the "monopolistic" aspect.

In fact, monopolistic competition is one of the most prevalent market structures in the American economy. From mattresses to men's suits, from book publishing to paperboard boxes, and from upholstered furniture to fur goods, all these industries are monopolistically competitive just as are the industries producing the several hundred magazines on a newsstand rack and the fifty or so competing brands of personal computers.

The biggest difference between oligopoly and monopolistic competition is that monopolistically competitive industries are relatively unconcentrated. That is, each firm has a comparably small percentage of the total market so that each has limited control over market price. This relatively large number of firms in a monopolistically competitive industry ensures that collusion is all but impossible.

As for the connections between monopolistic competition and perfect competition, the big difference is that with monopolistic competition, there is product differentiation—a key concept introduced in previous lectures.

Because monopolistically competitive producers turn out many variations of a particular product, monopolistically competitive firms compete less on price. Such so-called “non-price competition” can come in the way that firms differentiate their products, and such differentiation can be accomplished in many ways—from product quality and conditions of sale and service to location and advertising and packaging. Because of such product differentiation, consumers have reasons other than price to prefer one product over another.

To understand this better, just walk down the cereal aisle of any grocery store and see how many different ways that Kellogg’s can package up a flake of grain. Similarly, in the realm of product quality, personal computers can differ in terms of hardware capacity, software, graphics, and how “user friendly they are,” while that big burger served up at any one of a number of fast food restaurants may differ on the leanness of the beef, the size of the bun, and whether it is broiled or fried.

Note that while product quality is based on real differences between products, such is not always the case with another major source of product differentiation: advertising and packaging and the use of brand names and trademarks.

For example, while there are many aspirin-type products, promotion and advertising may convince headache sufferers that Bayer or Bufferin are superior and worth a higher price than a generic substitute.

Now, with a large blow of the trumpet, here is the punch line to this discussion: From the business executive’s perspective, product differentiation in general and advertising in particular have two strategic goals in mind.

The first goal is to increase consumer demand and thereby shift the firm’s demand curve outwards and increase the firm’s market share. The second goal is to increase the inelasticity of the demand curve for its product—which is a handy-dandy way to increase one’s profits through price hikes.

Lecture 13: So You Want to Get an MBA?: Some Basics

The **Suggested Reading** for this lecture is Richard Montauk's *How to Get Into the Top MBA Programs*.

Lectures 13 and 14 are provided by Professor Navarro's friend and colleague, Jon Masciana.

Jon is a former MBA student and, most relevant to this effort, the director of Admissions and Recruiting at University of California-Irvine's Paul Merage School of Business for their MBA program tailored to fully-employed students.

Why Pursue an MBA?

There are many valid reasons to pursue an MBA degree. For starters, an MBA will provide you with an overview of the functional areas of business in the previous twelve lectures. More importantly, at a business school, your professors will not only teach you the individual disciplines. You will also learn how to integrate business fundamentals and to think more strategically.

That said, the following are the top six reasons for pursuing an MBA:

- An MBA degree should improve your long-term earning potential.
- Many candidates seek an intellectual challenge, and gaining business acumen is particularly important for candidates who work in various areas of business and would potentially like to move up into management, but hold a bachelor's degree in a technical or non-business-related field.
- At least some students are seeking to advance in their current field or industry. In fact, many prospective MBA students enjoy what they do and need an MBA to help boost them to the next levels in their industry.
- A lot of MBA students want to change their career, and an MBA is an important catalyst in helping them successfully make that career change.
- There are also important networking opportunities. It has often been said that 49 percent of the value of an MBA program can be based on



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the curriculum, faculty, and the educational experience, but the other 51 percent can be attributed to the networks and the resources that your MBA program provides.

- Many students desire to grow or start their own business, but they need more skill and credibility.

Turning to a second important question, Should you continue working and attend business school on a part-time program? Or should you quit work and go to business school full time?

Generally, students who pursue a full-time program plan to immerse themselves in their studies rather than juggle school priorities with career and other work-life balance considerations.

On the other hand, students who select to enroll in part-time programs are typically at a stage in their careers where they are not able to pursue an MBA full-time because of financial constraints, career responsibilities, or family obligations.

Of course, there is another important consideration that comes into play—how much work experience you have. In fact, the average number of years of work experience in part-time and executive MBA programs is generally higher than that of full-time MBA programs.

That said, many schools accept a wide range of work experience levels in both their part-time and full-time programs. And while all MBA programs prefer that candidates obtain some work experience before applying, many full-time MBA programs will accept some candidates with little to no post-undergraduate work experience.

Advantages and Disadvantages

The advantages of pursuing an MBA full time:

1. The ability to take a broad range of electives in your second year.
2. The high amount of interaction with other students.
3. The opportunities for in-depth study in certain functional areas.

The disadvantages:

1. You take a long time away from work.
2. There is a loss of career momentum.
3. Classroom discussion may be more focused on theory, rather than application in full-time programs.

Now what about the flip side—what are the primary advantages and disadvantages of pursuing an MBA part time?:

On the advantage front:

1. In a part-time program, you can attend school while maintaining career momentum and eliminate the risk of employment concerns when you graduate.
2. You can leverage contacts and maintain networking opportunities with your employer.

3. Here's a big carrot—your employer might fully or partially finance your program. And you can apply what you learn on the job as you learn it.

Disadvantages of getting your MBA in a part-time program:

1. You have less time to maximize networking opportunities.
2. Your classmates are likely to be from the local area, so there is less diversity.
3. It may be difficult to participate in all extracurricular activities.

Finding the Right School

Another important topic is how one finds the best business school for his or her needs. One place to start looking is by reviewing the rankings of the top business schools, performed each year by publications like *Business Week* and the *Financial Times*.

Every MBA program strives to be at the top of the rankings in the most well-known publications, as it helps to increase the reputation of the school and the perceived quality of the education provided to the students. Schools are consistently trying to recruit better and better students and place them in higher-level and higher-paying positions when they graduate, as both of these factors will strengthen their position in nearly all of the top journals.

But here's an important caveat: While business school rankings are beneficial as a starting point for exploration, keep in mind that they are an uncertain science and the primary reason that news journals publish rankings is to sell magazines. That's a big reason why rankings should not be used as the sole decision factor.

That being said, prospective students are influenced by rankings. This interest helps to drive up the number of applications to schools that are highly ranked, thereby increasing the quality of their student profile, which in turn does preserve the school's high ranking.

Now here's an important institutional detail: Rankings have been traditionally conducted to measure full-time MBA programs. However, the importance and interest in part-time MBA programs has risen dramatically in recent years. So if you plan to pursue your MBA part-time, you may want to look specifically at part-time MBA program rankings, as the criteria can be slightly different.

Just what are those criteria? The following are the criteria for three of the major publications that publish rankings on MBA programs.

The *Financial Times* provides the most comprehensive ranking, as it takes into account more factors than any other publication.

The *Financial Times'* approach is to measure three broad elements: (1) the career progression of its graduates, (2) the diversity of their experiences (both alumni and current students), and (3) the school's research quality.

The big advantage to the *Financial Times'* ranking is that it encompasses a wide variety of factors and is not highly skewed. The other positive is that the *Financial Times* ranking accounts for MBA programs in various countries and directly compares schools from different regions of the world.

That said, the big disadvantage to the *Financial Times* approach is that there are differences in how you measure these factors and an inevitable arbitrariness in assigning the weights. For example, the career progression of the graduates accounts for fully 55 percent of the ranking, the diversity of the experience accounts for 25 percent, and the school's research quality accounts for 20 percent of the overall *Financial Times* ranking.

Now what about *Business Week*? *Business Week* takes a unique approach to business school evaluations because it looks at each school from a "consumer" perspective. Indeed, nearly the entire ranking is based on the perspectives of students and recruiters—fully 90 percent. As for the remaining 10 percent, it is based on intellectual capital, which is defined as the quality of the faculty output in research journals, as well as the peer review of their work by deans at other business schools.

The advantage to the *Business Week* approach is that it provides a comprehensive review of how students and recruiters perceive the school, and the input that both of these audiences provides is arguably the most important component to a top business school.

On the other hand, the big disadvantage with this approach is that it is likely to be subject to a fair amount of bias. Students and alumni may not provide a true and accurate depiction of their university, and likewise, the recruiter opinions may be biased in the sense that they did not hire or directly interact with the majority of the student body when they contribute their opinions to the *Business Week* ranking.

Now what about the rankings compiled by *U.S. News and World Report*?

The *U.S. News* ranking is a complex ranking and takes into account three factors: (1) the quality of admissions based on the average grade point average of the students and their test scores on the GMAT test—more about that later; (2) the school's success at getting its students good jobs at high wages, and (3) the school's reputation based on a survey of deans.

In this calculation, reputation accounts for 40 percent, placement success accounts for 35 percent, and admissions statistics account for 25 percent. Unfortunately, the admissions statistics are open to manipulation and some business schools do not report all of their data as a way of boosting their ranking.

In fact, a slight drop in an undergraduate GPA average can significantly drop a school's ranking in *U.S. News*. Indeed, while the difference in an average undergraduate GPA of 3.48 and 3.45 may seem somewhat trivial, this small difference can mean a drop in several points in the *U.S. News* ranking.

So what's the bottom line here? Regardless of which rankings source you decide to follow, make sure that you collect several years' worth of data and observe how your target schools perform over time against other schools.

Resources for Finding the Best School

One very valuable resource is the Internet and the websites of the various business schools.

Any official MBA program website should provide a solid overview of most of the pertinent information: admissions requirements, profile statistics, curriculum, specializations available, current rankings, faculty, resources, student organizations, and alumni network strength.

You should also be able to navigate fairly quickly through the website to glean the most relevant information. For example, if you're interested in changing your career, you'll want to look closely at placement statistics for the school's graduating class.

As you scan these websites, record all of the contact information available and store the information in a spreadsheet or database for later reference. You will want to contact each school directly with your questions once you have gathered enough information from the school's website and have fine-tuned your criteria for the type of school that is right for you.

As a second important resource, you can review available recruiter information and placement statistics.

In fact, you will want to look closely at the companies that recruit at the MBA programs you are considering and the types of positions that MBA graduates obtain. Quite a few of the top companies only recruit at the most prestigious business schools. However, keep in mind that many of the schools with lower rankings nonetheless do attract top corporate recruiters for specific specializations. These schools in the middle tier often place students at top organizations, but typically in positions that reflect the strength of their school. For example, if a school is specifically known for its marketing focus, a top recruiter may only recruit MBAs from that school in marketing, and so on.

As a third valuable resource, you can also research schools on professional networking sites.

In the age of the Internet, social and professional networking sites can provide you with a lot of useful information about MBA programs as well as the current students and alumni that currently or previously attended the schools you are interested in.

In this search the site *Linked In* is recommended as a primary source. You can also look at *Facebook* MBA groups as a secondary source.

As for *Linked In*, it is a professional networking site that allows you to view professional profiles and connect to other professionals directly using a "six degrees of separation" approach. Many MBA students, alumni, and prospective MBA students post their profiles on *Linked In* to help them expand their networking opportunities.

So look at current student and alumni profiles for the schools that you are considering and specifically note their professional careers pre- and post-MBA. If you find profiles of graduates or current students that interest you, particularly if they possess a similar background, you may want to consider contacting them through the "six degrees" approach.

In addition, if you have a specific question about career paths with an MBA or the advantages (or disadvantages) of attending a particular school, you may also want to consider conducting a search in the "Q & A" area of *Linked In* and find comments to questions that relate to your specific areas of interest.

As a fourth valuable resource as you narrow your search, you should also read the brochures of the schools you are interested in.

Typically, you can either download a digital brochure or request a print brochure of the school's viewbook from its website. Most schools keep their view books up to date with news and information about their school, resources, and other aspects.

Be sure to record how each school presents itself in its marketing material. These distinguishing marketing factors may have an impact on whether you decide to take the next step and apply to the school.

As a fifth valuable resource, you should talk to alumni or current students directly. This is an extremely important component of the process. You'll need to spend time speaking with a current student or alumni directly (via phone, e-mail, or in-person) at every school you are considering. Specifically, ask them about their MBA experiences—both inside the classroom and with regard to the quality of the resources available outside of the program. This is of particular importance to students who are considering part-time programs, because the resources available for part-time MBA programs are often different than for full-time MBA programs.

Last but not least, you should attend an information session at every school you are strongly considering. This is a great way to communicate with admissions officers directly, and they may also provide you with a chance to speak with current students and alumni at the session.

Note that some schools will convey a more personable or more informative approach through their information sessions, while other schools will spend a majority of time emphasizing certain areas or key differentiating factors about their MBA program. It's important that you attend several information sessions at different schools, if at all possible, to obtain several comparison points.

In this regard, as an admissions director, I often found that information sessions are a critical factor in the decision process and can quite literally change a prospective candidate's impression of the school entirely.

Getting Admitted

Most business schools operate on either a "rolling" application basis or on a "rounds" basis. With schools that accept applications on a rolling basis you can apply at any time and your application will be reviewed in the order in which it is received. In addition, you will likely receive a decision at the end of the cycle, or on a certain date, based on when you submit your application.

In contrast, if a school operates using "rounds," there will be several application deadlines throughout the year and no applications will be reviewed for a decision until the deadline has passed.

The notification process in either case typically takes several weeks (if not months), as business schools need to review a substantial number of applications to get a sense of the volume and quality of applications for a particular cycle.

Note that your application will likely not be reviewed by admissions personnel until it is complete, and most business schools require most, if not all, of the following in their application:

- An application with personal as well as professional information.
- The transcripts from your undergraduate institution—and graduate school, if applicable.
- Your score on the Graduate Management Admission Test—the test known as the GMAT. And note here that the GMAT may be waived if you hold a doctorate degree while some executive MBA programs waive the GMAT based on academic and professional qualifications. However, the GMAT is generally mandatory for all full-time and nonexecutive part-time MBA programs.
- Your statement of purpose, with most schools requiring three or more typically short essays.
- You typically must provide at least two letters of recommendation.
- And you may be surprised at this—some schools now require a criminal background check for all applicants under consideration, and the candidates typically have to pay for it themselves.
- You must have an updated professional resume, and some schools also require an organization chart for your company that highlights your place within the organization's hierarchy.
- And finally, your interview with the school.

Once these steps are completed, the actual admissions decisions are made by MBA admissions directors, with strong input from case managers, the interviewers, and (potentially) faculty at the assistant dean or associate dean level.

Typically, MBA admissions directors have several years of experience in admissions at the business school and have also held junior-level admissions positions in the past. They may have an MBA, and many possess a background in human resources.

Many admissions directors are graduates of their own MBA program. In these cases, they often have a very good idea of the type of student that will do well in their MBA program from their own firsthand experience.

As for what kind of students business schools are looking for, a common misconception is that they are only looking for a high GMAT score, a strong GPA, and a certain number of years of work experience.

However, this is not true for nearly all business schools. In fact, business schools are looking for diverse individuals who have a strong potential to succeed in business and management, who will become leaders in their chosen fields, and will be individuals who represent their school and MBA program well many years after they graduate.

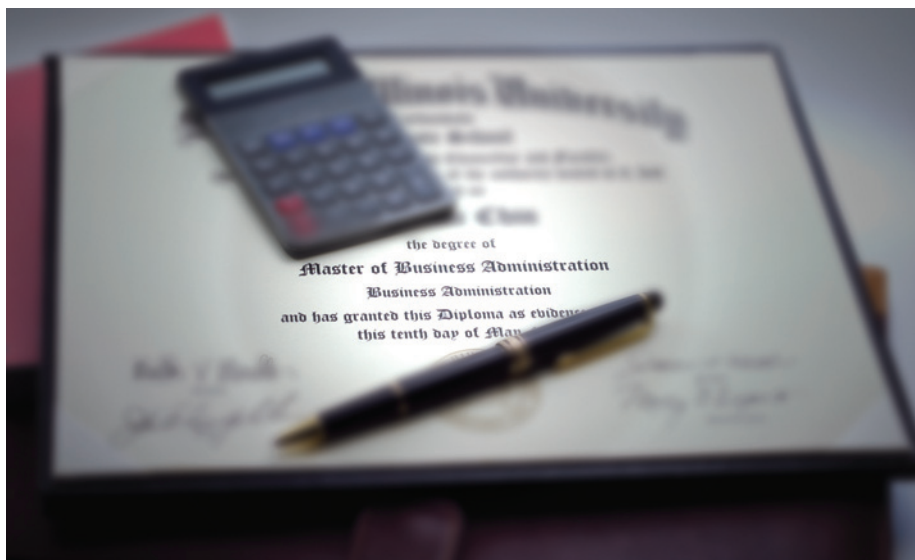
Note that employment upon graduation is a major part of the rankings for full-time MBA programs, and because of that, many schools actually integrate their career services director into the admissions process.

Schools want to make sure that every student they admit will be eligible for a position at a company that recruits at their school. For example, engineers who wish to move into real estate when they graduate will need to demonstrate that they possess transferable skills and relevant experience in order to handle a new position in a different industry.

In fact, the admissions director will often ask the career services director his or her opinion about certain candidates if there is a concern that the candidate may not have the right experience, or enough experience, to change careers into their desired field or industry.

As for work experience, it is of critical importance to part-time and executive MBA programs as well. In this calculus, more weight is typically placed on the quality of work experience obtained before entering an MBA program because this often helps determine the success of the candidate when they graduate.

As a final comment, most top schools are looking for well-balanced candidates and base admissions decisions on both qualitative and quantitative factors. Schools want to know that you (1) can handle the rigor of their MBA program, as evidenced by your undergraduate degree, your undergraduate GPA, and your GMAT score, (2) can contribute to the dynamic MBA classroom environment, based on your work experience and interview, and (3) possess strong potential for future career success. In other words, you will be able to obtain a great job when you graduate and will move into a senior management position.



Lecture 14: Applying—and Getting Into—Your Business School of Choice

The **Suggested Reading** for this lecture is Graduate Management Admission Council's *The Official Guide for GMAT Review*.

Key Factors in Your Application

The two key factors in your MBA application are your undergraduate background and your undergraduate GPA. Together, these factors provide an indication of your dedication to academic studies, and they also provide an indication of your intellectual ability to handle various academic courses in an MBA program.

Not all GPAs, undergraduate majors, and institutions are treated equally in the MBA admissions process. For example, you may have earned a 3.8 grade point average in college—and that's very impressive. However, if you did not take any quantitative courses as an undergraduate, you will need to demonstrate your quantitative ability through the GMAT exam or other coursework.

More broadly, business schools are looking for candidates who are high achievers. Working hard in your undergraduate years in a difficult major—and taking on difficult quantitative courses—can help demonstrate to a business school that you take academics seriously.

In addition, if you obtained stronger grades in demanding courses in your last two years in your upper division coursework than your lower division, this will also hold weight in the admissions process.

As for the GMAT exam, it becomes less relevant in the cases where it is clear that you as a student were willing and able to dedicate a lot of time and effort to your undergraduate coursework to achieve success. This type of dedication often translates into the MBA classroom, and generally, people



who hold high GPAs in rigorous undergraduate majors will also do well academically in an MBA program.

Business schools also prefer to see that you have taken courses in accounting, statistics, and calculus, as these courses are integral to many MBA programs and admissions officers will often highlight the grades you received in those key courses.

And note here: If you have not taken courses in any of those subjects, I would recommend that you consider taking them at a local college or university and make sure that the transcripts are sent to the MBA programs that you are applying to.

In this regard, pre-MBA preparation can say a lot about your determination and commitment to succeed. But keep in mind that taking additional coursework will not directly offset a less than stellar undergraduate GPA. Instead, it will be used as supplemental material and it may help to make a difference.

In regard to your application strategy and specifically how to handle a less-than-stellar GPA, you should be willing and able to devote as much time as possible to the other qualitative areas of your application, and you should try to obtain the best score possible on the GMAT exam.

So just what are you up against? The average GPA for most MBA programs is between 3.4 and 3.6, and many top ten schools have a higher average GPA—on the order of 3.7 or 3.8.

The exception here is that if you graduated from a very demanding and rigorous school with a 3.0 or 3.1 GPA in a difficult quantitative area, such as electrical engineering or computer science, you still have a good chance of getting into a top school, particularly if you can demonstrate your ability on the GMAT exam.

Now what about if your GPA is less than a 3.0? You still have a chance of getting into a very good school, but it will require a lot of extra effort and work to demonstrate your ability to handle the academics of an MBA program and dedication to coursework.

Here are some other things that can work in your favor:

1. If you were involved and participated in various clubs and organizations that positively impacted your career, you should mention this in your statement of purpose.
2. If you had to financially support yourself or your family during your undergraduate years and this negatively impacted your GPA, you should mention this in your application.

And here's an important tip: If you are concerned about your GPA, the worst thing that you can do is not address it in your application. When admissions directors see a low GPA, the first thing they ask is: Why? If you don't address it in your application, you're sending a specific message to the admissions committee that tells them you believe your GPA is not a concern, which can be a deciding factor in admission.

The GMAT Exam

The GMAT is a computer-adaptive test that measures your ability to think logically and to employ a wide range of skills acquired during your prior schooling, including the ability to write well.

While the GMAT exam does not predict a candidate's ability to succeed in business, it is a statistically reliable and valid measure that predicts how well a student will perform in the core curriculum of an MBA program. In fact, students with higher GMAT scores do fare better, as measured by their average GPA in core MBA courses, than students with lower GMAT scores.

Structurally, there are three areas of the GMAT exam.

The first area is the analytical writing assessment. This section consists of two thirty-minute essays involving the analysis of an argument and the analysis of an issue.

These two essays are rated on a scale from 0 to 6, with the average score being around 4.0. Most schools consider a 4.0 or 4.5 to be acceptable, and anything higher to be good. And note that these essays are not typically read by the admissions officers—unless there is cause for concern regarding the candidate's ability to write well.

After these two essays, there are two seventy-five-minute multiple choice sections: a quantitative section, followed by a verbal section.

The quantitative section contains two types of questions: (1) problem-solving, which includes arithmetic, algebra, and geometry, and (2) data sufficiency questions, which are generally harder and more abstract.

As for the verbal section of the GMAT, it contains three different types of questions: reading comprehension, which involves reading a short passage and answering a series of questions about the passage; critical reasoning, which tests your ability to evaluate evidence and logic used in short arguments; and sentence correction, which requires you to recognize grammatically correct sentence structure.

As you move through these two sections, the questions that you receive will be based on your responses to previous questions. For example, if you answer an early question correctly, the computer-adaptive algorithm will give you a harder question. If you answered a question incorrectly, you will receive an easier question, and so on and so forth.

In this process, the computer-adaptive algorithm is attempting to accurately measure your performance on the GMAT by reaching a point where you get one right, then one wrong, and so on. At this point, the algorithm is able to accurately assign you a score and percentile ranking for each section of the exam.

Your score on the quantitative and verbal multiple-choice sections account for a total "overall" score, reported on a 200- to 800-point scale. Business schools consider this overall score to be the most important part of the GMAT—not your essays.

As a statistical matter, the average score for all test-takers each year, as measured by the Graduate Management Admissions Council, runs a little over 500 points. However, most top business schools accept scores in the high 600 or low 700 ranges, meaning that their scores are in the top 5 to 10 percent of all GMAT exam test takers.

In addition to your score, you will receive a percentile ranking for the verbal and quantitative sections, as well as an overall percentile ranking. The percentile ranking for each section, as well as the overall percentile, indicates how you performed compared to other test takers.

For example, an overall percentile ranking of 89 percent means that you performed better than 89 percent of all GMAT test takers. These percentages are important, as business schools do take into account the percentage score for each section. If you have a high verbal percentage (that is, 97 percent) but a low quant percentage (that is, 55 percent), this may be cause for concern because it may indicate that you are not able to handle quantitative courses as well as other students.

And here's a big tip for you: If you receive a score that you feel is not indicative of your ability, most schools recommend that you retake the exam.

Studies show that retaking the test one or two times can boost your score by 30 to even 100 points. And the good news here is that nearly all business schools do not penalize you for taking the GMAT multiple times. They'll just take the highest total score that you received.

In answer to the question of how to best prepare for the GMAT, you must ask this question in response—how do you best study for exams?

If you're the type of person who prefers a structured regimen toward exam preparation, with clear benchmarks, goals, and deadlines, you may want to consider taking a GMAT prep course. In fact, there are many prep courses that you can choose from and you'll need to do a little Internet research to find the right one for you.

In addition, you may want to ask for referrals from MBA students who have taken prep courses and talk about what their experiences were like.

In fact, such prep courses can have a dramatic impact on your GMAT score—but the cost is relatively high. Some of the most popular courses, offered by Kaplan, Manhattan GMAT, and Princeton Review, are anywhere from \$1,100 to \$1,600 for a seven- to ten-session course.

And here's another important tip: If you decide to take a GMAT prep course, make sure to take the exam within two to three weeks following the course.

Of course, depending on your level of discipline, a prep course may not be necessary. In fact, many of our students have cited self-study as an effective method to prepare for the GMAT.

The good news here is that the Graduate Management Admissions Council releases previous versions of GMAT exams to various publishers. So if you prefer the self-study method, make sure to purchase one of the GMAT prep books that are sponsored by the Graduate Management Admissions Council, because these books will contain real GMAT exam questions.

Also, in this technological age, you will definitely want to purchase a CD-ROM with software that will administer a computer-adaptive simulation of the GMAT exam. Alternatively, you can also look into online services that provide similar computer-adaptive simulations.

Now here's another tip: The most important obstacle that you will face when taking the GMAT is time. So the only way to effectively prepare yourself is to practice, practice, and practice under the actual time constraints that you will face when you take the real exam. For self-studiers, this is of particular importance, as prep courses do emphasize this point and provide students with many simulations of the real test.

Before moving on to the next topic, there is a point I really want to emphasize in your test-taking strategy. Do not, under any circumstances, leave any question unanswered. The GMAT is designed to get harder and harder as you progress through the exam, and if you skip questions, you will foil this process—and hurt your score. Also, you will be drastically penalized for any question that you do not answer in the multiple-choice sections.

In this regard, you will have, on average, about two minutes to answer each question. If you find that you've spent three minutes on a question, take your best guess and move on.

As a final comment, as you prepare for the GMAT, make sure that your schedule is free of other commitments, and try to dedicate as much concentrated time as you can toward preparation. Most students have found that short, but focused, efforts are the most effective to prepare for the GMAT. Also, make sure that you are cognizant of MBA admissions deadlines as you prepare for the GMAT, and try to get the exam out of the way as early as possible in the process so that you can obtain an idea of the schools that will be in your range of consideration.

Work Experience

Work experience is a critical factor in admissions decisions primarily because schools are trying to assess your managerial potential as well as your potential for future career success. If your undergraduate background is comparatively weaker than other candidates, you may want to wait a bit longer to apply and demonstrate to the admissions committee that your professional background is more indicative of future career success than your undergraduate background.

Interestingly, the length of your work experience is actually less important than the quality of your work experience. It almost does not matter what type of managerial or professional background you have—if you are able to establish yourself in a unique industry or field, this factor can be played up to your advantage in the admissions process.

And here's a good tip: If you work for a company in a traditional feeder industry such as consulting, advertising, or investment banking, you may want to emphasize specific unique aspects of your job in the application to help distinguish yourself from the rest of the applicants. All schools look for diversity, so play up those distinguishing traits.

Now what do the stats tell us? The average age for traditional full-time MBA programs is around twenty-five or twenty-six, and most candidates hold an average of three or four years of full-time experience before applying to an MBA program. Based on your work experience, you should be able to demonstrate the following to the admissions committee:

1. You clearly understand your company's position in your industry and how your industry operates.
2. You understand how various departments within your company interact and how they impact other departments.
3. You know where you are headed in your career (even if you plan to change careers or just started a new job).
4. You have relevant insights regarding your company or industry.
5. You work well with other people in a team environment.
6. You possess good "soft skills": the ability to evaluate and work with different types of people with different work styles and motivations.

In regard to work experience, achievement is a key driver. If you can demonstrate professional success or achievement in your MBA application, you will stand out amongst the rest. The key achievements that admissions committees look for are these:

1. You have direct supervisory and management experience—always a highly valued attribute.
2. You have achieved meaningful results, or above average results, given your position and pay grade.
3. You acquired substantial skills in your job.
4. You received a wide range of experiences.
5. You have a demonstrated ability to handle multiple types of assignments or roles within your organization.

Now here's a cautionary tip: If you just started your career, you may want to consider waiting to apply to a business school until after you have obtained a bit more experience, been promoted at your company, or moved into a higher level role at a new company, or you can demonstrate ability in one or more of the previously discussed achievements.

And one final point: For part-time and executive MBA programs, the admissions committee will scrutinize your work experience even more closely as the level of desired work experience is often higher, on average. That's why a bit more weight is placed on the quality of your professional work experience in comparison with others.

Application Essays

Your essays are typically reviewed by an admissions committee as a presentation of yourself on paper. So try not to regurgitate your resume and work history in your essays, as this is essentially a waste of time; all admissions officers have a copy of your resume and will use that to review your work history and job duties.

Instead, with the essays, admissions officers are seeking to assess your writing skills and how you can sustain a closely reasoned argument.

Typically, business essay question prompts will ask you about a unique aspect regarding your career history or development, your short-term and long-term career goals, and how an MBA fits in to your career plan. In addition, nearly all business schools will ask you why you feel that their school is the right fit for you.

This last topic is an important one, and you definitely want to spend some time to reflect before you answer this question and demonstrate to the admissions committee through your research: Why are you applying to their particular school?

This may seem to be trivial point, but based on my own experience in admissions, I want to emphasize that you should always carefully read essay question prompts and make sure that you answer the question that is being asked in a clear and concise manner.

In fact, many candidates hurt their chances of admission by simply not reading the question carefully or reinterpreting the question in their own way and not directly addressing the question.

And know this: Admissions officers receive a lot of applications and they need to quickly assess your ability to present yourself. After all, the way you present yourself, and clearly articulating your points, are critical skills in business. Senior managers who desire to move to the executive level need to be effective in these areas.

As a final point on your application, make sure that you have someone carefully proofread your essays, not only for content and flow, but also for grammar and small details, especially if you are referencing faculty members or specific resources at each business school. These small details do make a difference, as multiple grammar mistakes or typos indicate to the admissions committee that you do not care about the presentation of your application.

The Interview

Some schools interview some of their candidates; others require all applicants to interview, and other schools do not interview at all.

By all means, if an interview is available to you, plan to sign up for it. The interview can be a deciding factor over whether you get in or not. That being said, you'll want to prepare yourself for success and provide the interviewer with additional useful information that they may not have from your application.

If your job or career is unique, you'll want to emphasize this in your interview. MBA admissions officers really enjoy listening to unique stories, and this will help you achieve a leg up in the admissions process, especially if you engage with the interviewer effectively.

And remember that the interview is often designed so that the admissions committee can obtain some clarity regarding your career potential, interpersonal skills, ability to handle the academic nature of their program, ability to work in teams, or all of the above.

And here's a big tip: Do not schedule an interview if you do not have enough time to prepare, and do make sure you know who will be interviewing you.

If you are being interviewed by an alumnus, be prepared to ask them meaningful questions about their experience in the program. This will help you to demonstrate interest in their MBA program, as well as provide you with further discussion points. If you are interviewing with an admissions officer, make sure that you have at least a few meaningful questions to ask them about the program, or the admissions process, or both.

The most important thing to remember in an interview is to always, always, always be honest. Do not make up stories about your career or academic history, inflate your job duties or responsibilities, or emphasize different career goals than the goals stated in your application.

Also, be direct when answering questions, and if you are unclear about your long-term career path, be sure to have a good response to the question, if it is asked. In this process, clearly describe several possible scenarios that are in line with your background and interests. Also, just like your essays, the interview is about presenting yourself—be clear and to the point when answering all questions.

Now here's a final tip—all business schools like to admit candidates who are proven team players who get along well with people. If you are not used to working with people consistently in your profession, make sure that you practice for your interview and role play if necessary. Also, make sure that you clearly emphasize your interest in and success in working with people from a variety of different backgrounds.

Letters of Recommendation

You must take the process of selecting and requesting recommenders for an MBA application seriously. This is because letters of recommendation are used by the admissions committee to validate the claims that you have made in your application. In other words, admissions officers are looking for other people to support the arguments that you made about yourself elsewhere in your application.

Of course, the other major thing that admissions committees learn from reading letters of recommendation is how accurately you evaluate the perceptions that other people have about you. If you exceed expectations in your job and your supervisor appreciates your work, then you will likely want to ask your supervisor to write your letter of recommendation.

And do try to make sure that your recommenders highlight success stories about you, particularly stories that showcase aspects of your managerial ability, career potential, or ability to handle complex assignments.

As for who to choose, candidates often ask me if obtaining a letter of recommendation from the CEO of their company will hold more weight to the admissions committee than a recommendation from a middle or lower level manager. The answer is not necessarily.

While obtaining a letter of recommendation from a top-level executive is impressive, the recommendation will not add any value if the executive does

not know enough to properly evaluate you. If they do know you well and are enthusiastic about your pursuit of an MBA program, then by all means, go for it.

Typically, business school applications request two letters of recommendation. At least one of them should come from a direct supervisor at your current place of employment, or if you just started a new job, you should ask your previous supervisor, as they will be able to best describe your work ethic, managerial ability, and so on.

Perhaps surprisingly, the second letter of recommendation should also ideally come from the workplace as well. In this regard, professional letters of recommendation are important for business school applications, because admissions committees are looking for future leaders and potential for career success. While academic and personal letters of reference can add some value to an application, professional recommendations can best describe your abilities in the workplace, which is generally more important.

In closing, candidates often ask if submitting an additional letter of recommendation will improve their chances of admission. Generally, a third letter of recommendation does not add much value if it simply reiterates points that the other two recommenders have already made.

Now here are some important tips on selecting recommenders for your application:

1. Choose people who know you well and have enough experience working with you to evaluate you in all the areas described previously.
2. Pick recommenders who genuinely like you. If your recommender can touch on some of your qualitative attributes—such as your strong interpersonal, teamwork, or other related abilities and skills, and so on, you'll have a leg up on the competition.
3. Make sure that your recommenders highlight areas related to your business skill and ability to handle intellectual or complex tasks and assignments. Ideally, the letter will also provide an indication of your character. This is because high integrity and ethics are important characteristics for managers in the business world.





REVIEW QUESTIONS

Lecture 1

1. What are the four main audiences for this lecture course? Which category might you fit into? Did I miss a category?
2. In our conceptual framework, what are the five main categories of the MBA core curriculum?
3. Do all business schools teach the same curriculum? Why is this question important to prospective students?
4. What are the two “grand chess master” courses in the Strategic and Tactical MBA category and what do they teach?
5. What are the two major courses in the MBA tool box category and what is their hallmark?
6. Name four major courses in the Functional MBA category. What will you learn taking these courses?
7. What are three of the important courses in the Organizational and Leadership MBA category? What is a central lesson of these courses?
8. What are the two broad areas of study in the Political and Regulatory MBA category? Do most business schools place a major emphasis on these two areas of study?

Lecture 2

1. Name and describe the three major areas of analysis covered in this lecture.
2. When drawing a sample from a population, what are the two main problems that statisticians worry about?
3. What are the five main elements of decision analysis?
4. In building a decision tree, square nodes are used to represent what? How about circle nodes, what do they represent?
5. What are the four main elements common in any model-building exercise?
6. Name six different types of optimization models.
7. Provide several examples of the queuing problem and several of the typical solutions.

Lecture 3

1. Describe the four steps of marketing management.
2. What is the focus of market research and what are two of its biggest questions?
3. What are the three important criteria for evaluating whether a market segment is a viable target?
4. What are the famous “four Ps” of the marketing mix?

**Lecture 3 (continued)**

5. Explain the concept of the “value-add chain” and the three types of value that can be added.
6. Why is it important to maintain the existing customer base?

Lecture 4

1. What is the primary goal of operations management?
2. How many of the eight decision areas of operations management can you name?
3. What are the two big questions of aggregate planning and what is one of the most important tasks of aggregate planning?
4. What are the two big questions of inventory management and what are the four types of inventory?
5. What are some of the reasons that companies want to hold inventories?
6. Describe the two types of systems used in production management.
7. What is the big question associated with project scheduling? What are the three small questions embedded in this big question?
8. What are the two big questions of facilities layout and location and who is concerned with these questions?

Lecture 5

1. What is the difference between financial accounting and managerial accounting?
2. What is the purpose of the balance sheet and define the dual-aspect concept?
3. Define the income statement, explain why it is important, and state the key equation for the income statement.
4. What are the five major issues that financial statement analysis helps shed light on?
5. What are the three major types of ratios that can be extracted from financial statements and what do they measure? What kind of analysis is usually associated with these ratios?
6. Define the term “liquidity” and describe at least one ratio commonly used to gauge liquidity.
7. What is the basic idea behind the concept of asset management and what ratios are commonly used in asset management?

Lecture 6

1. What are some of the key things that different teams in the firm can determine from managerial accounting and the internal accounting system?

Lecture 6 (continued)

2. What is the primary purpose of the master budget and who is the chief accounting officer of the corporation?
3. Describe the two broad philosophies of budgeting and their pros and cons.
4. What is one of the most important applications of CVP analysis and what is the key to this CVP concept?
5. Contrast the method of absorption costing versus variable costing.
6. Describe the balanced scorecard approach.
7. What is the underlying philosophy of responsibility centers and what are their three major types?

Lecture 7

1. What is the basic time value of money principle?
2. What is the basic risk principle?
3. What tool is commonly used to account for time and risk by corporate executives?
4. What is the most common way to calculate the discount rate?
5. Ultimately, what determines a firm's cost of equity capital?
6. What is the risk-free rate and what is the expected return of a security?
7. What are the two components of risk and how are they defined?
8. What are the two critical effects to consider when combining stocks into a portfolio to maximize one's returns?
9. Why is the concept of hedging important?

Lecture 8

1. The MARS model is used to analyze what kind of behavior and performance? What does the acronym stand for?
2. What kind of traits does the CANOE model help explain and what do the letters in this acronym stand for?
3. What is the difference between emotions and attitudes?
4. What does the EVLN model help analyze and what does this acronym stand for?
5. Explain the four main elements of emotional intelligence and why each element is important.
6. What are the three main perspectives on leadership?
7. The contingency perspective of leadership usefully distinguishes between what two types of behavior? Explain each type.
8. What are the four main types of behavior that help define transformational leaders?



Lecture 9

1. What does workflow analysis help identify and what is the first step in a workflow analysis?
2. What does job analysis involve and what critical information does job analysis provide?
3. What is the process of human resource planning involve and what does it identify?
4. In setting personnel policies, what are the four key decisions?
5. What does the process of selection refer to and what does selection attempt to identify?
6. What are the five stages of the instructional design process?
7. Why is feedback a crucial ingredient of any effective learning program?
8. Why are performance management systems so important?
9. What does the concept of validity refer to and what does the concept of reliability describe?

Lecture 10

1. What is a strategy? How is a strategy different from tactics?
2. What is the first step in the five-step strategic analysis process and what big question does it answer?
3. Step Two of the strategic analysis involves what two types of analysis? What does each type do?
4. What is the focus of Step Three of the five-step strategic analysis? As a practical matter, how is the goal of this step achieved by a firm?
5. What is the critical task of Step Four of the strategic analysis and what big questions does it seek to answer?
6. What two major questions must be answered in the fifth and final step of the strategic analysis process?
7. What's the difference between economies of scale and economies of scope?
8. Why is game theory so valuable to executive teams?

Lecture 11

1. What is the difference between microeconomics and macroeconomics?
2. What is the key policy difference between microeconomics and macroeconomics and what are the implications for government intervention?
3. What's the difference between fiscal policy and monetary policy?
4. Name the five warring schools of macroeconomics.
5. Describe the two main kinds of inflation.

Lecture 11 (continued)

6. What is “stagflation” and what is the dilemma faced by Keynesian economists trying to cure it?
7. How did the monetarist Milton Friedman explain inflation and recession? What was the monetarist cure for inflation?
8. What is the central idea behind New Classical economics and the controversial theory of rational expectations? What does this theory imply about the effectiveness of fiscal and monetary policy?
9. What is the simple equation used to calculate the gross domestic product (or GDP)?
10. In managing the business cycle, how should business executives manage their inventory control and production?

Lecture 12

1. In which direction does the supply curve slope? In which direction does the demand curve slope? And where may the equilibrium price be found in a typical market?
2. What does the slope of the demand curve measure? If the demand curve is relatively flat, what does that tell us about this measure? What if the demand curve is relatively steep or vertical?
3. Define the price elasticity of demand and explain how it relates to the different shapes of the demand curve.
4. Explain economies of scale and explain why this concept is important in terms of understanding why the government regulates some industries and not others.
5. What is the powerful idea behind the structure-conduct-performance paradigm?
6. What does the term “market structure” refer to and what are the four main types of market structure?
7. Define the term oligopoly and explain what the central element of oligopoly is.
8. What are the defining characteristics of monopolistic competition?
9. From the business executive’s perspective, what are the two main goals of product differentiation through advertising?

Lecture 13

1. Why would an individual decide to pursue a full-time MBA program over a part-time MBA program?
2. Why do MBA programs strive to be at the top of the rankings in well-known journals and publications?

**Lecture 13 (continued)**

3. Why is it important to review the recruiter information and placement statistics of MBA programs?
4. What is the difference between “rolling” vs. “rounds” admissions?
5. Who is involved in contributing to admissions decisions regarding MBA applications at most business schools?
6. What are most top business schools looking for when they are evaluating a candidate’s application for admission?

Lecture 14

1. What kind of courses do business schools prefer to see you have taken? What should you do if you haven’t taken such courses?
2. What is the average GPA for most MBA programs and what should you do if you have a less-than-stellar GPA?
3. What can the GMAT predict fairly accurately and what can’t it predict?
4. If you receive a GMAT score that you feel is not indicative of your ability, what should you do?
5. What’s the worst mistake you can make when taking the GMAT?
6. Based on your work experience, what should you be able to demonstrate to the admissions committee?
7. What’s the worst mistake many candidates make when writing their essays?
8. What’s the most important thing to remember in your interview?

Suggested Readings:

- Bonini, Charles P., Warren Hausman, and Harold Bierman. *Statistics, Decision Analysis, and Modeling: How the Numbers Help Us Manage Quantitative Analysis for Management*. 9th ed. Columbus, OH: McGraw-Hill/Irwin, 1997.
- Brickley, James, Jerold Zimmerman, and Clifford W. Smith, Jr. *Managerial Economics and Organizational Architecture*. 5th ed. Columbus, OH: McGraw-Hill/Irwin, 2008.
- Graduate Management Admission Council. *The Official Guide for GMAT Review*. 11th ed. McLean, VA: GMAC®, 2005.
- Lanen, William N., Shannon Anderson, and Michael W. Maher. *Fundamentals of Cost Accounting*. 6th ed. Columbus, OH: McGraw-Hill/Irwin, 2007.
- Libby, Robert, Patricia Libby, and Daniel G. Short. *Financial Accounting with Annual Report*. 6th ed. Columbus, OH: McGraw-Hill/Irwin, 2008.
- McShane, Steven, and Mary Ann Von Glinow. *Organizational Behavior*. 4th student ed. Columbus, OH: McGraw-Hill/Irwin, 2008.
- Montauk, Richard. *How to Get Into the Top MBA Programs*. 4th ed. New York: Prentice Hall Press, 2007.
- Nahmias, Steven. *Production and Operations Analysis*. 6th ed. Columbus, OH: McGraw-Hill/Irwin, 2008.
- Navarro, Peter. *The Well-Timed Strategy: Managing the Business Cycle for Competitive Advantage*. 1st ed. Philadelphia: Wharton School Publishing, 2006.
- . *What the Best MBAs Know: How to Apply the Greatest Ideas Taught in the Best Business Schools*. 1st ed. Columbus, OH: McGraw-Hill, 2005.
- Noe, Raymond Andrew, John R. Hollenbeck, Barry Gerhart, and Patrick M. Wright. *Human Resource Management*. 6th ed. Columbus, OH: McGraw-Hill/Irwin, 2008.
- Peter, J. Paul, and James H. Donnelly, Jr. *Marketing Management: Strategic Marketing: Delivering Customer Value*. 9th ed. Columbus, OH: McGraw-Hill/Irwin, 2008.
- Ross, Stephen A., Randolph W. Westerfield, Jeffrey Jaffe, and Bradford D. Jordan. *Corporate Finance: Core Principles and Applications with Standard & Poors Card*. 1st ed. Columbus, OH: McGraw-Hill/Irwin, 2006.
- Spulber, Daniel F. *Management Strategy*. 1st ed. Columbus, OH: McGraw-Hill/Irwin, 2003.

All materials are available through www.modernscholar.com or by calling Recorded Books at 1-800-636-3399.

Admissions and Application Resources:

1. *Top MBA* is an informative resource for prospective MBA candidates. This website contains articles and admissions advice from admissions officers and current MBA students and information about and registration for the World MBA Tour —
http://www.topmba.com/mba_admissions/mba_admissions_advice/
2. *Clear Admit* is a repository of information from MBA applicants as they progress through the admissions process. Users can share statistics, insights, and stories about their experiences. *Clear Admit* is free of charge to all users and contributors — <http://www.clearadmit.com/>
3. *Accepted* contains resources and articles on admissions advice, sample essays, and letters of recommendation tips —
<http://www.accepted.com/mba/careerchanger.aspx>

Business School Rankings:

For the latest rankings of business schools, the following websites are useful:

1. *Financial Times* — <http://www.ft.com/businesseducation/mba>
2. *Business Week* — <http://www.businessweek.com/bschools/rankings/>
3. *U.S. News and World Report* —
<http://grad-schools.usnews.rankingsandreviews.com/grad/mba/search>

GMAT Test Preparation:

1. Kaplan, Inc. Test Prep and Admissions —
http://www.kaptest.com/Business/Business-School/BU_home.html
2. MG Prep, Inc. (Manhattan GMAT) — <http://www.manhattangmat.com/>
3. *The Princeton Review* — <http://www.princetonreview.com/business>

GMAT Registration and Information:

Graduate Management Admissions Council — <http://www.mba.com/mba>