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REVISED
EDITION

THE
CASE
STUDY
HANDBOOK
A STUDENT'S GUIDE

William Ellet

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INTRODUCTION

Are you a student who is new to the case method? Are you a student who feels that you aren't learning as much as you want from the case method? If you belong in either of these categories, this book was written for you.

The first edition of *The Case Study Handbook* emerged from my sixteen years of work with business school students. This new version follows over a decade more of working with students and refining the ideas in the first edition. The initial motivation for the book was frustration. I had been trying to help Harvard Business School MBAs write better case-based examinations. I gave them what I considered to be good advice about writing, such as using a logical essay structure and being concise. There was nothing wrong with the advice—I'm still giving it to this day—but it didn't have the positive impact I expected on the quality of students' exam essays.

Eventually, I realized that I didn't fully understand what the students were having trouble with. First, my advice started in the wrong place. I assumed that students knew how to analyze cases to provide the content needed for their exam essays. Actually, many weren't sure how to do that. Their uncertainty compromised the depth and quality of their thinking about cases.

Second, case examinations usually ask students to take a position on the central issue of a case. Although many students had no problem taking a position, they weren't certain what else they needed to do. A common strategy was to fill the essay with case facts the students thought were relevant to their position and let the reader sort out the relationship between the facts and the position. I assumed that they knew how to write an argument to prove their position.

The two issues had nothing to do with how smart the students were. They weren't at fault for not knowing what they needed to do because no one had ever told them. Students are usually expected to figure out how to analyze cases on their own. Many do and many don't. But the process of making cases meaningful is too important to leave to chance. The rich

learning that the case method offers can't be completely realized unless students—meaning you—understand what a case is and how to analyze it. The same is true of understanding how to make evidence-backed arguments.

One other aspect of the case method causes problems for a significant number of students: classroom discussion of cases. They're unsure of the purpose of discussion and their role in it. Much of this uncertainty stems from students' educational backgrounds. They're used to the lecture method and have honed the skills needed for that method of instruction: listening and taking notes. They emphatically aren't used to the professor asking them questions or having a major share of the responsibility for learning in the classroom.

It's telling that three critical aspects of the student role in the case method—analysis, discussion, and argument—are often ignored. The case method has been defined largely from the point of view of professors, not students. Professors concern themselves with analyzing cases in order to teach them and are skilled in argumentation. However, what matters most in the classroom is what students, not professors, know—or don't.

I'm not blaming professors. They're focused on their subject-matter expertise, and the academic reward system tends to be biased toward what the professor knows, not how well she or he can teach that knowledge. Showing students how to analyze cases and make arguments about them falls outside the lines of business disciplines and the organization of business departments or schools. You'll look in vain for a Department of Case Analysis.

This book fills the gap I've just described in traditional business curricula. (It also is relevant to programs other than business that use cases, including medicine, nursing, and engineering.) It provides:

- Analytical tools that help you sort, organize, and reflect on the content of a case and use the concepts and frameworks taught in business courses more effectively.
- Advice on how you can participate in and contribute to classroom discussion of cases.
- Guidance on how to develop arguments about cases and express them in writing that is logical, clear, and succinct.

It's a fair question to ask whether the advice in this book works. Is it worth your time to read? Here's what I can tell you. For over a decade since the publication of the initial edition, a group of writing coaches, including me, has used the first edition of the book as a foundation for our

work with hundreds of Harvard MBAs. Almost all of our students significantly improved their ability to analyze cases and to write about them. Our metric was the grades that students received. I've had similar results in my teaching at Brandeis University, George Washington University, and the University of Miami.

One of the best examples from my own coaching is a first-generation college graduate from a family that had emigrated to the United States when he was a child. He received poor grades on his first-year exams at HBS and was understandably demoralized. He used the concepts in this book to enhance his understanding of how to analyze a case and write a persuasive argument about it. In his second year, he received high grades in all of his courses—a complete turnaround from his first year. There were several reasons for his academic improvement, the primary one being his hard work. But he said he also benefited in class discussion and on exams from the concepts drawn from this book.

This book uses Harvard Business School cases as examples and includes analyses of them. Don't assume, however, that the analyses give the "right answers" to the cases. The evidence in them can sustain other conclusions. The book also includes essays about the cases; they are based on the writing of MBA students. Because the original essays were examinations written under time pressure, they inevitably had errors, unclear sentences, and lapses in logic. I debated whether to present the essays as is or correct and revise them. I chose the latter. No essay is perfect, and I don't want to set a standard of unobtainable perfection. But I want you to have the best examples of the points made in the book without confusion over what is correct and what isn't.

This book is intended for you—case method students current and prospective. My wish is that it will enhance your learning from cases and provide benefits for others associated with your learning—your peers, professors, employers, colleagues, and communities.

CHAPTER 1

WHAT IS THE CASE METHOD? WHAT'S IN IT FOR YOU?

Each year, entering business school students—and students in many other disciplines—encounter an approach to learning that is new to them: the case method. You may be one of them. For novices, the first encounter can be frustrating and unnerving. A case appears to be a straightforward narrative, but when you finish reading it, you may ask yourself questions such as:

- What point is the case trying to make?
- Is it trying to make a point at all?
- What am I supposed to do now?

Let's say you have read a case study of a restaurant chain that ends with the CEO turning over in his mind basic questions about the business. He has some possible answers, but the case doesn't tell you which one he thinks is best. In another case study, a young MBA has accidentally learned of office behavior that could have serious consequences for the individuals involved, including her. At the conclusion of the case, she has a literal and figurative headache, and the choice of what she should do is left up in the air.

In the classroom, case instructors facilitate discussion, asking lots of questions, writing comments on the board, and making occasional remarks. Students respond to questions, build on each other's comments, disagree with one another, ask questions, and try out different points of view about the case situation. A case classroom is dynamic and unpredictable; discussion can lurch into a blind alley, reverse course, and then head in a more productive direction. Sometimes the discussion may seem to end in a frustrating muddle. Students have expressed conflicting views about the main issue in the case, and the professor, the expert in the room,

doesn't step in and resolve the conflict by announcing the "right" answer. Why doesn't she do her job?

Actually, she is doing her job. In a case classroom, you're entitled to your own opinion; you don't have to defer to the professor or other students as long as you back your opinion with case facts (including numbers when they're available) and fact-based inferences and calculations. The professor doesn't lay out the correct response to the case for one very good reason. As students, you have to learn how to think. The professor can't do it for you. You have to practice thinking, which means you'll gain insights and understanding that are gratifying and fun and make mistakes that are frustrating.

Written examinations that use cases pose another challenge for you. In class, everyone, including the instructor, works collaboratively on a case. On exams, you are on your own. You not only have to analyze the case in response to one or more questions but also write an essay that satisfies and persuades an expert reader, all in a limited time.

WHAT'S IN IT FOR YOU?

Until now, your education has probably consisted primarily of lectures. They are widely used all over the world. There are good reasons for their popularity. They are an efficient way for an expert to deliver content to many individuals at once. One memorable description of the method is the "sage on the stage." In combination with textbooks, which are lectures in print, this learning model can deliver a large amount of content to many students in a short time. In addition, student learning can usually be tested efficiently with multiple choice or short-answer questions or problem sets.

The lecture model is good for transferring information. In that sense, it is efficient (although there are serious questions about how long and how well students retain the information). However, like any learning model, it has limitations when used exclusively. Most important, lectures can teach you *what* to think but not *how* to think. Lecture content (live or delivered through media such as the web and in textbooks and other similar readings) provides theory, frameworks, concepts, facts, formulas, and expert opinion about a subject. It is the "what" of thinking.

However, for knowledge you will use in the real world—in business, for example, or in engineering or medicine—the "what" isn't sufficient. You must know how to apply the knowledge in the real world. For that, you need to practice in situations that are similar to those you will actually encounter.

Here's a simple example of the difference between what and how. You received a degree from Soccer University. You took courses on rules, skills, and strategy and read textbooks, listened to lectures, and watched videos and demonstrations by professional soccer players. However, you never practiced what you learned on a soccer field. Do you know how to play soccer? No, you don't.

Similarly, let's say you're an MBA who took multiple accounting classes taught by the lecture method and read the assigned textbook. None of your classes used cases or any other type of active learning. In your first job, you're asked to evaluate the organization's accounting system. In school you had lectures on different types of accounting systems, but you were never asked to analyze, on your own, a real-world accounting system and its fit with an organization. You aren't sure what criteria you should use. You could tell your boss that you need her help but are afraid she might question the decision to hire you.

One area of education has always recognized the importance of both the "what" and the "how." Medical schools teach their students knowledge from a wide range of fields (the what). But it would be unthinkable to teach students the theory of medicine and turn them loose on patients with no training in how to treat them. Medical schools require clinical training: the application of what students have learned to real patients under the supervision of experienced doctors (the how). This practice continues beyond graduation from medical school in internships and residencies.

Strangely, academic disciplines that teach knowledge meant to be applied in the real world often put limited or no emphasis on the translation of knowledge into action. This knowledge requires practice opportunities. The lecture method generally doesn't give students the chance to practice. In the case method, you use the knowledge you have learned to come up with your own answers (with the guidance of an expert). The method allows for answers that are objectively wrong or dubious because they are part of learning. The case method allows you to make mistakes and learn from them.

This fundamental shift in the learning model causes many students to be confused, uncertain, and anxious. But professors using cases are doing it for your sake. They want to give you the opportunity to practice using what they've taught you.

Think of it this way: when you are in a job, your professor isn't going to be there to tell you the right answer. Your boss likely isn't going to tell you either. After all, she hired you to come up with answers.

SKILLS FOR THE CASE METHOD

MBA students have told me they feel there is a secret to the case method that some people get and some don't. If you get it, you do well; if you don't, you scrape by as best you can.

The case method requires a lot from you. At the same time, it isn't a secret society in which a few fortunate individuals get it and outperform their peers. As a case method student, you need three distinct sets of skills:

1. You need to be able to read a case and give it meaning in relation to the key issues or questions that you have been asked about it.
2. You have to be able to communicate your thinking effectively in a class discussion.
3. You must be able to write a persuasive response to a question about a case.

Reading, discussing, and writing about cases all involve the application of knowledge to the situation described in a case. What does "knowledge" mean? It includes your work experience and also the knowledge you learn in courses such as the principles of accounting, the 5Cs of marketing, and the Five Forces of Michael Porter.

This book addresses the three aspects of the case method. The case method begins with reading a case, interrogating it with questions, seeking information relevant to the questions, making inferences and calculations, and forming an opinion or conclusion about the main issue. These skills are the focus of part I of this book. In the classroom, the case method is about sharing your thinking with classmates and the instructor and learning from this collaboration. The skills related to case discussion are the subject of part II. You may have to write about cases for class assignments or the final examination. Skills for writing about cases are covered in part III. In part IV, you'll find three cases used as examples for analyzing and writing about a case. Finally, part V includes Study Guides for taking notes to prepare for case discussion and to outline a case-based essay.

PART I

ANALYZING CASES

CHAPTER 2

WHAT IS A CASE?

Have you ever read a case? If you haven't, this chapter will be much more useful to you after you have read a case. There are three at the end of this book to choose from. Read the first section of the case slowly and skim the rest to get a sense of the story it tells.

Much of what you read daily is packaged to make it easy to understand. The writing in newspapers, magazines, television, internet resources such as Facebook, and academic articles tells you what it means. If it doesn't, it has failed in its purpose to inform. A newspaper article, for example, states its subject clearly, often in the first paragraph, and carefully declares its main points, which are usually explained and amplified through specific examples.

Here are the first two paragraphs from a column written by Steven Pearlstein of the *Washington Post*:

In the recent history of management ideas, few have had a more profound—or pernicious—effect than the one that says corporations should be run in a manner that “maximizes shareholder value.”

Indeed, you could argue that much of what Americans perceive to be wrong with the economy these days—the slow growth and rising inequality; the recurring scandals; the wild swings from boom to bust; the inadequate investment in R&D, worker training and public goods—has its roots in this ideology.¹

After you read these two paragraphs, you know what the subject of the article is. You also have an expectation about the content of the rest of the article: it will explore the specific ways in which maximizing shareholder value has led to serious economic problems.

You have probably read parts or all of hundreds of textbooks. Along with lectures, they are the backbone of university education. Both are invaluable for learning about ideas that have proven useful to understanding the real world. For example, in strategy courses all over the world, students learn about Michael Porter's Five Forces. His framework helps organize thinking about the economic factors that determine how

competitive industries are. They help you see the elements underlying strategy and how organizations orchestrate them—or don't. Theories and frameworks help you make sense of specific types of situations in the real world. Without them, you would be far less able to explain or anticipate events such as the astonishing success of an organization (e.g., Uber) or a shocking reversal of fortune (Uber). The knowledge codified in concepts and theories taught in academic disciplines is indispensable for understanding the world.

At the same time, educational texts represent reality as logical and coherent. They can make a complex situation that surprised everyone, including experts, and affected millions of people around the world appear to be the logical outcome of well-defined causes. The financial crisis of 2007–2008 that started in the United States and spread around the world is an example. Few people saw it coming, and experts, industry participants, government regulators, politicians, journalists, and victims were shocked when it happened. But afterward, experts found a pattern of actions that they believe led inexorably to the disaster.

We can learn much from the study of past events. In real time, however, real-world situations have islands of useful data, observations, and reference points but, to participants, are often fluid and chaotic, have a large degree of uncertainty, and are difficult to understand. Real-world situations don't come with carefully selected and sorted information that tells participants what is going on and what they should do about it.

To practice using knowledge in actual situations, you need some way of immersing yourself in both the available facts and the fluidity and uncertainty that characterize the real world. That's what cases are for.

WHAT A CASE IS, WHAT IT DOES, WHAT IT DOESN'T DO

A business case imitates or simulates a real situation. By case, I mean the substantial studies from universities or corporations, not the slender vignettes sometimes included in textbooks. Cases can also be collections of articles, multimedia content, or a variety of other types of content. They are verbal representations of reality—sometimes with visual and auditory complements—that put you in the role of a participant in a situation. The subject of cases varies enormously, from a single individual or organization to an entire nation. Printed cases can range from one page to fifty or more and can have a small or large amount of content. But all of these different forms of cases have a common purpose: to represent reality, to convey a situation with all its crosscurrents and rough edges.

Cases are an analogue of reality—an avatar, if you like—for the direct experience of business or other types of activities. They immerse you in certainties and vagaries. To perform this function, a case must have four characteristics:

- A significant business issue or issues
- Sufficient information on which to base conclusions about the issues
- No objective conclusion—in other words, no explicit or implied right answer
- A nonlinear organization

Let's explore each of these characteristics.

Significant Issue

A case without a significant issue has no educational value. You can therefore assume that every case deals with something important in the real world, for example, a pricing dilemma, debt-equity trade-offs, or a major problem in a factory.

Sufficient Information

A case must have enough facts pertinent to the main issue to allow you to draw evidence-backed conclusions about it. Too little information leads to guesses, which aren't educationally useful because there is no way to judge their value. A case is very likely to include conflicting information, which is consistent with real-world situations.

Cases can also include information that serves as noise to distract you and makes it harder to distinguish useful information. If you're new to the case method, this can be hard to cope with. Textbooks and articles include only information that is relevant to the main topic. Cases are different because noise is a characteristic of real situations. Today, we are awash in information, and cases can provide invaluable practice in filtering information according to its relevance and value to an issue.

No Objective Conclusions

Cases describe situations about which people have differing opinions. They don't consist of information that is all neatly aligned with a specific

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conclusion. Characters in the case may express strong opinions, but you need to consider their views alongside those of other characters and other information in the case. You, the reader, have to decide on a conclusion, as you do in real-life situations.

Nonlinear Organization

Cases seem to have a logical structure. They have an opening section, a sequence of headings and subheadings, and a concluding section. They often have exhibits that look like those in textbooks or articles. Headings and subheadings seem to divide the case into sections just as textbooks or articles do. Nevertheless, business cases are typically nonlinear, meaning the content is not presented in the most logical way. Information on a single topic is scattered among different sections in a case. Case exhibits are often designed in a way that it makes it difficult to extract high-value information. They can also have significant gaps in information.

TEXTBOOK VS. CASE

Because you've spent years reading textbooks, let's compare them to see how they differ. (See exhibit 2-A.) The comparison shows why you're going to have to adjust the way you've learned to read.

As you can see, textbooks and cases present radically different reading tasks. The purpose of textbooks is the transfer of knowledge, including the principles and conclusions that experts in a domain of knowledge accept. The organization of a textbook is logical, starting from basic concepts and progressing to more advanced concepts. The main skill needed for textbooks is memorization.

EXHIBIT 2-A

Difference between textbooks and cases

Textbooks	Cases
Present principles and conclusions	Present information only, no principles or conclusions
Explain the meaning and significance of concepts	Require readers to construct the meaning of a case
Organize content in a logical sequence	Employ "organized disorganization"

Cases provide information and express no conclusions about that information. They are literally meaningless until a reader gives them meaning. As just noted, cases appear to be logically organized, but they aren't. Information about the same topic is often scattered throughout the case. These case features mean that you can't be a passive reader, gliding your highlighter over chunks of text, even though you don't know whether they're important. When you read a case for the first time, pulling a highlighter across the page may feel like you're doing something, but it's an illusion.

With cases, you need to change how you read and, ultimately, how you think. Cases are a jigsaw puzzle with the pieces arranged in a confusing pattern. You need to take the pieces and fit them into a pattern that helps you understand the main issue and think about the optimal ways to address it. You need to be comfortable with less than perfect information and an irreducible level of uncertainty. You need to be able to filter the noise of irrelevant or relatively unimportant information. You need to focus on key tasks that allow you to put pieces together in a meaningful pattern, which in turn will give you a better understanding of the main issue and put you in a position to make impactful recommendations.

Based on twenty-five years of teaching students at Harvard Business School and other institutions how to navigate and excel at case-based learning, I've identified techniques for making meaning from cases:

- Recognizing the main issue in a case that needs solving and the most efficient way to go about investigating it.
- Reading the case actively and efficiently to provide a basis for your analysis of the case.
- Following a path of analysis to arrive at an evidence-backed conclusion about the main issue.

NOTE

1. Steven Pearlstein, "Businesses' Focus on Maximizing Shareholder Value Has Numerous Costs," *Washington Post*, September 6, 2013.

CHAPTER 3

THE SKILLS YOU NEED TO READ AND ANALYZE A CASE

As mentioned in the last chapter, cases usually have a superficial organization that doesn't provide much direction for readers. Related information is scattered across sections, and the section headings don't necessarily help you discern the relative importance of the information they contain. The information dispersed throughout the case and the data you will extrapolate from calculations and exhibits are the puzzle pieces that need to be assembled into a pattern that has meaning.

There are thousands of published cases, and each is, in a sense, unique. No case presents the same set of facts as any other case. But cases also have similarities that can facilitate your study of them. Most cases illustrate one of three core scenarios:

- The need to make a critical *decision* and potentially persuade other characters in the case to accept it
- The need to perform an in-depth *evaluation* that lays out the pros and cons or strengths and weaknesses of the subject of the case
- The need to perform a comprehensive *problem diagnosis* that identifies the root causes of a problem described in the case

It isn't surprising that these core scenarios come up again and again because cases are about what happens in the real world. In business, certain scenarios do occur repeatedly. To understand information, we have to have a way of organizing it. Developing the skills to identify which of three scenarios is at the core of a case solves one of the biggest problems of studying a case: how to meaningfully organize the information in it. This is the first skill for understanding cases and the foundation upon which you will build the other skills.

The sections that follow illustrate the three core scenarios and explain how to recognize them in the cases you read.

DECISIONS

Please read the first two paragraphs of “General Motors: Packard Electric Division” on page 173 and then return to this page.

Did you notice the sentence in the second paragraph?

The Product, Process, and Reliability (PPR) committee, which had the final responsibility for the new product development process, had asked [David] Schramm for his analysis and recommendation as to whether Packard Electric should commit to the RIM grommet for a 1992 model year car.

Schramm, the main character of the case, must recommend a decision about producing a newly designed part used in the assembly of automobiles. Business cases organized around an explicitly stated decision are probably the most common type, which isn’t surprising considering that a central function of organizations of all kinds is making decisions. Organizations have to make decisions; otherwise, they would cease to exist.

How to Recognize a Decision Scenario

Decision scenarios are generally easy to recognize because the decision is stated, often in the first section. Don’t be surprised if the word “decision” isn’t used. Note that it’s absent in the sentence from the “General Motors” case. But if you know what you’re looking for, the phrase “whether Packard Electric should commit to the RIM grommet for a 1992 model year car” tells you that the main character has to make a decision about the RIM grommet (a newly designed part for automobiles) and present it to the members of a committee.

One of the best ways to identify the core scenario of a case is to ask yourself what the main character has to do—what his or her most important task is. In “General Motors,” Schramm has to figure out what the best decision is. Another test is to ask what the major uncertainty in the case is. For Schramm, it’s what to do about the RIM grommet.

Knowing that a case is about a decision means you can use a simple framework for analyzing it, which will be presented in detail in chapter 4.

EVALUATIONS

A case with an evaluation core scenario portrays a situation in which a deeper understanding of a person, division, company, country, strategy, or policy is necessary before any critical decisions or actions can be taken. Here is the second paragraph of a case:

[S]timulated by their success in introducing a new distribution channel for flowers, Owades and her two key associates, Fran Wilson and Ann Lee, were reassessing the firm's long-term growth strategy. Was Calyx & Corolla more a mail-order operation or should it compete directly against more traditional outlets, such as retail florists, and wire services, such as Florists Telegraph Delivery (FTD)? How fast did it have to grow to protect its initial success? What would be the financial implications of various growth strategies? How should its personal objectives and those of its investors and employees influence the character and pace of growth?¹

The first sentence of the paragraph says that the three leaders of a flower company are “reassessing” their existing long-term strategy—in other words, they are evaluating it. How do you evaluate something? You start with criteria, the standards appropriate for the subject and the situation. The questions in the second half of the paragraph suggest criteria for the evaluation. You will find that evaluation cases often state criteria as questions somewhere in the case.

How to Recognize an Evaluation Scenario

Cases that require an evaluation can be harder to identify than decision cases. At the beginning of a case, be alert for the words “evaluation,” “reevaluation,” “evaluate,” or “reevaluate” and similar ones such as “assess,” “reassess,” or “appraise.” An evaluation scenario always identifies a specific subject—for example, the performance of a person or a strategy.

Let's use the two tests mentioned in the previous section about decision scenarios. The first is, What does the main character have to do? When the main character has to make a judgment about the worth, value, performance, effectiveness, outcome, or consequences of something, the core scenario is an evaluation. The leaders of Calyx & Corolla want to assess the effectiveness and consequences of their long-term business strategy.

The second test is, What is the major uncertainty of the case? For the leaders of Calyx & Corolla, it seems to be whether the long-term strategy is the right fit for the business and its stakeholders and will have

the desired consequences such as sustaining the business and yielding the desired financial results. To determine the answers to these questions, the leaders must evaluate the current strategy.

The following paragraph is from the first section of another case:

The president called the repudiation “a turning point” in the history of Argentina and declared, “We will not pay our debt with the hunger and thirst of the Argentine people.” International authorities on sovereign debt, among them the rock star Bono, supported the actions of the president. (See Exhibit 1.) The Institute of International Finance, a global association of financial institutions, however, wrote that “lack of progress implementing structural reforms and Argentina’s aggressive conduct in the process of the debt exchange are certain to put the long-term economic prospects of the country at great risk.”²

The president of Argentina has decided to refuse to repay a large share (65 percent) of its foreign debt. The decision is controversial, with the president, Bono (!), and unnamed experts in favor, while an international organization of financial companies, a trade group of banks and financial institutions, foresees economic disaster for the country. The unstated question is: Which side is right? Your task is to evaluate the debt decision to see whether the president was right to make it.

You can also ask, What is the major uncertainty of the case? The answer is the impact on Argentina. The president’s refusal to pay the country’s debts has to be evaluated to find out whether it will help or hinder the country—or both. The last possibility—that both could be true—is a characteristic of evaluations. They almost always yield both positive and negative findings. In the real world, the subject of an assessment is rarely perfectly good or perfectly bad.

Like decisions, you can use a framework to guide the evaluation that the case calls for. See chapter 5 for more details on evaluation analysis.

PROBLEM DIAGNOSES

We have all been the subject of a problem diagnosis. When you’re sick and go to the doctor, your symptoms are a “problem” the doctor solves by making a diagnosis of what is causing them and prescribing treatment consistent with the diagnosis. Problem diagnosis is used in many disciplines, from business to engineering. Problem diagnosis simply means that a significant problem needs a causal explanation. A problem can be an outcome, reaction, result, or event. An example of an outcome or result would be a company’s failed attempt to seed social responsibility initiatives

in all of its divisions. The failure is a problem because the initiative is a high priority for the company and no one knows why it didn't work. The purpose of the diagnosis is to find out why it didn't work.

A problem can be positive or negative. An unexpected surge in sales is a positive, but a business that doesn't understand the reasons for the surge may not be able to sustain it. Problems are also negative, for example, the company's failed social responsibility initiative.

Here is the first paragraph of a case about an innovative steel company:

Nucor Corporation had recorded sales of \$755 million and a net income of \$46 million in 1986. It derived 99% of its sales and operating income from steel making and fabrication at 10 sites around the United States. Its steel-making capacity of 2.1 million tons made it the second largest domestic mini mill. Its sales and profits had grown very rapidly in the 1970s but had experienced some pressure in the 1980s, and had actually declined in 1986. In order to get a better handle on these performance pressures, F. Kenneth Iverson, Nucor's chairman and chief executive officer (CEO), reviewed the state of competition in the U.S. steel industry in general and Nucor's position within it in particular.³

The CEO of Nucor wants to understand the causes for the decline in sales. If he knows what they are, he and his company may be able to make changes that restore growth.

A good example of the efficacy of problem diagnosis is a US government agency charged with a very important mission: saving lives. Every commercial aviation crash involving US carriers is investigated by the National Transportation Safety Board (NTSB). Their goal is to understand the causes of the crash and then recommend changes that can prevent another one like it. These causal investigations and actions based on them have contributed to a decrease in commercial airline accidents and fatalities every decade since 1950. In 2017 there were no commercial passenger jet fatalities, the safest year on record.

How to Recognize a Problem-Diagnosis Scenario

Identifying problem-diagnosis cases can be difficult. They usually don't use the words "problem" or "diagnosis." As you gain experience with cases, you'll recognize those in which the main character doesn't know why something has happened and needs to understand the why. As in the Nucor example, a problem-diagnosis case will often open with an overview of the problem and introduce the main character who has to figure out what the causes are.

Again, let's use the same two tests that have been applied to decision and evaluation scenario cases: What does the main character have to do? What is the major uncertainty of the case?

Here are two paragraphs from the opening of a case:

Tom Claflin, a member of NDL's board and a venture capital backer of the firm, offered his perspective:

All the venture capitalists believe in the company, and in Jock and Rob. Yet this is their fourth time back to the well for capital, when the money raised in each of the previous rounds was supposed to have been sufficient. Before the venture group puts in another \$1 million or \$1.5 million, we must address the key issue: is it just taking longer to prime the pump than we expected or is there something fundamentally wrong with the concept?⁴

What does the main character have to do? Tom Claflin has been asked to provide more funding to a startup. He along with other investors believes in the company and its founders, but one round of funding was supposed to suffice. The problem is the startup's slow progress, and as a prudent investor, Claflin seeks to diagnose the cause or causes. Only then can he make an informed decision about providing more funding.

What is the major uncertainty of the case? Claflin doesn't know why the startup is taking longer than expected to succeed. He must understand what the causes are and specifically whether they are normal growing pains or fundamental flaws.

Chapter 6 has a detailed discussion of analyzing cases with problem-diagnosis scenarios.

READING A CASE BY ASKING QUESTIONS

Now you know the three core scenarios you'll encounter in cases and how to identify them. Your next step is to integrate this knowledge with a reading process tailored to cases.

In contrast to a textbook, a case requires an active reader. You can't sit back and expect the case to tell you what you need to know. You have to examine and rearrange its puzzle pieces, looking for a meaningful pattern. The process is similar to a research project. You wouldn't gather and read all of the possible sources. You would look for sources on specific aspects of the issue you're researching, sort them into categories, read them to determine their relevance, and if they are relevant, capture the information. It can be useful to think of a case as a type of research project.

Remember that cases don't tell you what they mean; they don't provide clear-cut answers. You have to be an active reader in order to find answers that make sense to you; "active reader" means that you ask questions and look for answers in the case.

Here is a series of eight questions for investigating a case that integrate the core scenarios discussed earlier in this chapter. Eight may seem to be an impractical number, but the first five can be accomplished quickly, especially after you have used them a few times. You should consider how much time an undirected reading and analysis of a case takes. Reading, highlighting text without being sure whether the text is important, taking notes without knowing whether they're important, rereading, highlighting more text, and taking more notes—the random approach can take hours and still be unproductive and therefore frustrating.

Many professors provide study questions for cases they assign for discussion, and sometimes students are confused about how to use them. Your first option is to ask your professor whether you should prepare answers to them. Typically, professors provide the questions as guides to important issues in the case, but don't expect you to prepare formal answers.

Case Reading Process

1. Read the first and last sections of the case. What do they tell you about the core scenario of the case?

These sections typically give you the clues needed to identify the core scenario.

2. Take a quick look at the other sections and the exhibits to determine what information the case contains.

The purpose is to learn what information is in the case and where. Avoid reading sections slowly and trying to memorize the content.

3. Stop! Now is the time to think rather than read. What is the core scenario of the case? What does the main character have to do? What is the major uncertainty?

Identify the core scenario by asking the two questions. Once you are reasonably certain of the core scenario—decision, evaluation, or problem diagnosis—you can use the relevant framework to ask the questions in the next step. Those questions will give you a specific agenda for productively exploring the case.

4. What do you need to know to accomplish what the main character has to do or to resolve the major uncertainty? List the things you need to know about the situation. Don't worry about being wrong.

This is probably the most important step of the entire process. If you don't know what you're looking for in the case, you won't find it. The right core scenario framework will prompt you to list things that you need to explore. For example, for a decision scenario case, you should think about the best criteria the main character can use to make the decision. To determine criteria, think about quantitative and qualitative tools you've learned that can help you.

5. Go through the case, skim sections, and mark places or takes notes about where you find information that corresponds to the list of things you need to know.

6. You're ready for a deep dive into the case. Carefully read and analyze the information you've identified that is relevant to the things you need to know. As you proceed in your analysis, ask, How does what I'm learning help me understand the main issue?

The most efficient and least confusing way to read and analyze is to peel the onion—to study one issue at a time. For instance, let's say that a decision has financial and marketing criteria. Analyzing the financial issues separately from marketing is far less confusing than trying to switch back and forth. As your analysis moves from issue to issue, you may discover gaps in your knowledge and have to add items to your list of what you need to know.

7. Your ultimate goal is to arrive at a position or conclusion about the case's main issue, backed by evidence from the case. Remember, there are usually no objectively right answers to a case. The best answer is the one with the strongest evidence backing it.

As you learn more, ask, How does what I know help me understand the main issue? When you are preparing a case for class discussion, consider alternative positions. Finally, take some time to think about actions that support your position.

8. What actions does your position support or require?

In the real world, analysis is often followed by action. A decision obviously has to be implemented. Usually the entire point of a problem diagnosis is

to target action that will solve the problem. And even evaluation has an important action component: sustaining the strengths and shoring up the weaknesses that it has revealed.

ANALYZING A CASE EFFECTIVELY

When you analyze a case, what do you actually do? “Analysis” is a word with multiple meanings. In case study, analysis is the close examination of the pieces of information in the case that you think may illuminate the main issue. The case reading process and the identification of a case’s core scenario provide the initial purpose for your analysis.

The purpose will shift as you go deeper into a case. Here’s an example:

Purpose: Determine the core scenario: it’s a decision.

Purpose: Find the decision options.

Purpose: List criteria that might be useful in making the decision.

Purpose: Find evidence having to do with your criteria.

Purpose: Analyze the evidence related to the criteria.

Purpose: Determine the decision option that is most strongly supported by the evidence.

Think of a research project again. As you proceed, your focus becomes narrower, but—and this is important—you don’t lose sight of the project’s goal. The goal of case analysis is to investigate the pieces of the puzzle and arrange them into a picture of the main issue that makes sense to you.

The outcome of analysis is information, inferences, and calculations sufficient to allow you to take a position on the main issue. Analysis should be methodical and focused. Hit-or-miss analysis will be too scattered to advance your understanding.

Following a Path of Analysis

All the fine generalizations in the previous paragraph need an example to make them real. We’ll follow a case analysis for a few steps.

During a downturn, a furniture manufacturer sells its products to retailers on credit, and they repay the loans monthly. The opening of the case tells us that a credit manager for the manufacturer must decide whether to continue to extend credit to two retailers, both longtime customers. The retailers are well behind in their loan repayments.

First, think about what the credit manager needs to know to make the decision. The retailers' financial health certainly seems relevant. So is the size of the local market and the firms' operational performance (sales, cost of goods sold, and related information). All three of these things could become criteria for the manager's decision.

You're ready to conduct your analysis because you have criteria for making the decision. You inventory the case for information related to the three possible criteria and find no information about the size of the local market but some about sales over the last three years. Retailer A has had declining sales until the most recent year and increasing cost of goods sold. The economy of the country in which the retailer operates has been in recession but has returned to growth in the last year. In the latest year for which figures are available, retailer A has had a slight increase in sales. You can infer that the recent trend toward a higher cost of goods sold is the result of retailer A selling furniture at a discount, which is an understandable response to lagging sales and a way to clear old inventory. For retailer A, you can say that the sales trend is slightly positive and supports a decision to extend more credit, although possibly with conditions or limitations.

The findings based on one criterion aren't reliable enough to make a decision. You need to understand the financial health of the retailers. Included in the case are three years of balance sheets and income statements. At this point, you have more analytical choices to make. There are many metrics that will help you assess the financial health of a company. Numbers expressing liquidity and capital structure can be computed from the balance sheets and income statements, and both are important indicators of financial health. How do you measure them? The quick ratio and the debt-to-equity ratio do that.

Here is a summary of the path of the analysis:

Decision: extend more credit to retailers A and B?

Criterion: Financial health

Metrics for assessing financial health?

Liquidity, Retailer A

Quick ratio calculated from exhibit: .076

Capital structure, Retailer A

Debt-to-assets ratio calculated from exhibit: 46%

Following this path, you learn something about retailer A. Its quick ratio is below 1, meaning it may not have enough assets to pay off its

liabilities in the short term. On the other hand, its debt-to-assets ratio is a healthy 46 percent, meaning it has plenty of capacity to take on debt to cover expenses if necessary. Although you need to know more to make a decision about extending more credit to retailer A, you have started to fit the puzzle pieces together that will eventually allow you to take a position on the credit decision.

About Evidence

Evidence is a term that's used often in this book. When you analyze a case, evidence is information that supports a position on the main issue. The main issue is defined by the case's core scenario: a decision, an evaluation, or a problem diagnosis. When you express a position about a decision, evidence is the information you offer to justify the decision. The same is true of evaluations and problem diagnoses.

Case evidence consists of facts, including numbers; calculations based on factual numbers and reasonable assumptions; inferences from facts; and statements by characters in the case. Evidence has a characteristic that's crucial to the credibility of a position or conclusion you advocate: it can be independently verified. In case studies, that means your peers and professor can check your evidence against the content of the case.

Some evidence is more inherently reliable than other forms. Appropriate and correct calculations from well-vetted numbers are the gold standard of evidence. Statements by individuals in a case have to be regarded as expressions of opinion, not truth. Personal opinion, even from an expert, gains power to the degree that other evidence correlates with it. A CEO could emphatically state positive views about her company's strategy, but her views gain authority when evidence from other sources supports them.

About Numbers

Numbers, either stated as facts in the case or calculated from numbers provided in the case, are one of the most powerful types of information and evidence in cases. They are also among the most treacherous because they can absorb an enormous share of your attention without providing much clarity. When a case has a lot of quantitative information, the temptation is to begin with it, trying to understand what the numbers mean or performing calculations. That is usually a mistake.⁵ Remember the point made in the reading process section: if you don't know what you're looking for, you won't find it.

The critical question of the reading process is, What do I need to know to accomplish what the main character has to do or to resolve the major uncertainty? We just traced part of the path of analysis through the case that dealt with the credit manager's dilemma. Did you notice when the calculations were made? They came at the end of the path:

Situation: decision → possible criteria: financial health → metrics? → liquidity and capital structure → calculations

In business, numbers have meaning only in a specific context. Without the context, they're simply numbers. In the example, the liquidity and capital structure ratios become meaningful only after we consider appropriate criteria for the specific decision and how to measure them.

And one number by itself generally doesn't mean much. For the decision, the quick ratio and the debt-to-assets ratio need to be considered together, along with the operational results. And even then, more calculations would make the picture of retailer A's financial health more precise. For example, have there been any adverse changes in accounts receivable versus accounts payable?

You're now equipped with knowledge about the three core scenarios of cases, a reading process, and analysis. In the next three chapters, you will put this knowledge to work reading and analyzing complete cases.

NOTES

1. Walter J. Salmon and David Wylie, "Calyx & Corolla," Case 9-592-035 (Boston: Harvard Business School, 1991), p. 1.
2. The quoted paragraph is from a draft version of a case once used as an examination in a Harvard Business School course. The final version is Noel Maurer and Aldo Musacchio, "Barber of Buenos Aires: Argentina's Debt Renegotiation," Case 9-706-034 (Boston: Harvard Business School, 2006).
3. Pankaj Ghemawat and Henricus J. Stander III, "Nucor Corporation," Case 9-793-039, exam version (Boston: Harvard Business School, 1992).
4. Michael J. Roberts, "National Demographics & Lifestyles (Condensed)," Case 9-388-043, exam version (Boston: Harvard Business School, 1987).
5. See David H. Maister, "How to Avoid Getting Lost in the Numbers," Case 9-682-010 (Boston: Harvard Business School, 1981), for a helpful discussion of analyzing quantitative data in a case.

CHAPTER 4

HOW TO ANALYZE DECISION SCENARIO CASES

The most common type of core scenario you'll encounter in cases is a decision. The first part of this chapter will define the unique characteristics of a decision analysis and the second will walk you through an analysis of a complete case, using the elements and the questions described in chapter 3.

The analysis of a decision scenario has six distinct elements:

- Identification of the required decision
- Review or identification of options
- Criteria selection
- Criteria-based analysis
- Recommended decision
- Proposed actions

Your professors probably will not discuss a decision scenario case by asking questions about the six elements. They will have their own way of facilitating the discussion. Nevertheless, the approach to analysis described in this chapter will guide your exploration of a case and prepare you for class discussion.

1. Identification of the Required Decision

Somewhere in the case, usually in the first section, you'll find a statement of the decision that is needed. That tells you the case is built around a decision scenario.

2. Review or Identification of Options

Decisions usually have options. As soon as you know the case is about a decision, look for the options. They might be binary—yes or no—or there might be several competing possibilities and you need to know—or define—what they are before you can analyze the case.

Here's a suggestion for working on a case that has more than two options. You can't juggle three (or more) options in your mind. If you try, you'll become confused. Instead, first work on the two options that seem most different from each other. Then work on the remaining options. You should have an understanding of all the available options before you make your final decision.

You may encounter decision scenarios in which the options aren't clearly defined. In these situations, you'll need to define the most logical options before beginning your analysis. Once you define them, you can analyze which one is best.

3. Criteria Selection

The meaning of “criteria” may seem nebulous and abstract. Actually, though, you use criteria all the time, even if you don't call them by that name. When you decide to buy a new cellphone, you have to have a way to choose one. You might have a number of objective criteria: price, size of the phone, screen resolution, quality of the camera, and size of internal memory. Or you might care most about the appearance or social value of the phone.

When studying cases, criteria are the answer to the following question: What should I think about when making the decision? The criteria you use are the most important part of analyzing a decision scenario. When you don't have any criteria in mind, you will roam around the case looking for something solid to hold onto. Irrelevant criteria will lead to wasted time and leave you vulnerable to recommending a decision with little to no supporting evidence.

Decision criteria should be:

- *Relevant to the decision.* They should reflect concepts that can help you understand a specific decision. A case about a leader calls for criteria relevant to leadership, not accounting or marketing.
- *Relevant to the case evidence.* There are many possible criteria for a given decision, but you need to look for those that reflect the evidence in the case. Early in your study of a case, you'll need to make some educated guesses about the criteria. (See the analysis of the

case in the second part of this chapter for more explanation of this.) Technical concepts and metrics appropriate to the decision can assist you in picking criteria. For example, take a case that revolves around an accounting decision. You would want to consider which of the accounting concepts you've learned could serve as possible criteria.

- *Limited to the minimum necessary for making a sound decision.* A decision recommendation is difficult when many criteria are used. You are forced to work with and reconcile the findings generated by many factors. Your task will be to identify the top criteria—that is, those that are most helpful in revealing what you need to know for making the decision.

4. Criteria-Based Analysis

The analysis of a decision directed by criteria examines the case evidence related to each criterion and what it says about the available options. Your goal is to learn which option offers the best fit between the criteria and the evidence in the case.

5. Recommended Decision

Once you have findings on all of your criteria, take a step back and see what decision recommendation they seem to support most strongly. Findings on different criteria often conflict with each other, requiring you to make a judgment of which criteria and what evidence are most important for making the decision.

6. Proposed Actions

A decision is only as good as its implementation. A smart decision can be undermined by poor implementation. For that reason, take action planning seriously. It's a skill every bit as important as decision making. The purpose of a decision action plan is to implement the decision as effectively as possible.

DEMONSTRATION: READING AND ANALYZING A DECISION SCENARIO CASE

“General Motors: Packard Electric Division” concerns a wholly owned supplier of the automotive giant, General Motors, and an innovative new component with an odd name, the “RIM grommet.” You'll get maximum

benefit by reading the complete case (pages 173–192) before you go on. The demonstration utilizes and illustrates the reading questions described in chapter 3.

As you will see, the analysis of the case goes into great detail. The purpose is to show you how deeply you can delve into a case scenario with the tools and questions this chapter offers. To be a good participant in a discussion, you don't need to know everything about a case. Make sure, though, that your analysis provides enough depth of understanding so that, in class discussion, you have something to contribute to shed light on the case's main issues.

1. Read the first and last sections of the case. What do they tell you about the core scenario of the case?

The opening paragraph is a minefield for the inexperienced case method student. The very first sentence has a reference to a glossary in the appendix. As a diligent reader, you might study the terms in the glossary as preparation for reading the rest of the case. That would be a mistake. To make technical terms meaningful, you need a grasp of the big picture.

The next paragraph has a reference to exhibit 1, a GANTT chart. The exhibit is just as much of a time sink as the glossary. It's meaningless until you know more. The opening of this case is one of the best illustrations of why focusing on the big picture before you immerse yourself in the details makes case reading and analysis cleaner and faster. (As it turns out, the glossary and chart have little value.)

But the first sentence of the second paragraph reveals that the core scenario is a decision:

The Product, Process, and Reliability (PPR) committee, which had the final responsibility for the new product development process, had asked Schramm for his analysis and recommendation as to whether Packard Electric should commit to the RIM grommet for a 1992 model year car. (page 173)

2. Take a quick look at the other sections and the exhibits to determine what information the case contains.

There are five major sections in "General Motors": background of Packard Electric, its products, new product development, the innovative part at the center of the decision (the RIM grommet), and various opinions about the RIM. The exhibits have information about such topics as engineering design activity, data on product defects (leaks), and production costs.

3. Stop! Now is the time to think rather than read. What is the core scenario of the case? What does the main character have to do? What is the major uncertainty?

You already know that the case is a decision scenario. Schramm knows the decision he has to make, but not the process he should follow to make it. That’s the major uncertainty of the case. In the last section of the case (page 190), “Schramm’s Options,” you’re told he has three options:

- Go exclusively with the RIM grommet for the customer’s 1992 model.
- Produce both the old part (IHG) and the new part (RIM grommet).
- Go exclusively with the IHG.

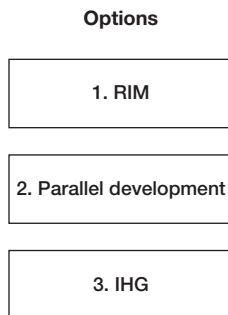
You now know what the required decision is and what the options are (exhibit 4-A).

4. What do you need to know to accomplish what the main character has to do or to resolve the major uncertainty? List the things you need to know about the situation. Don’t worry about being wrong.

Now comes the hardest step. The tendency is to jump into the case to learn more about it. You are far better off stopping and thinking. Why? Because at this point your mind isn’t crammed with a swarm of disconnected bits of information, which obstruct clear thinking. In addition,

EXHIBIT 4-A

What should Schramm decide?



taking the time to think about the most critical things you need to know will help direct your analysis.

The case involves a decision scenario with three options. To simplify your study of the case, start with the options that seem most different from one another: go with the RIM or with the IHG. After you analyze the two, you can consider the relative advantages and disadvantages of the third option.

Schramm's major uncertainty is how to make the decision. You should ask yourself, If I were Schramm, what would I need to know to recommend the best decision? Another way of putting the question is, What criteria will help me make the decision?

Think about business concepts you've learned that might be suitable criteria. You may know from an operations course that costs are an important factor for a decision involving manufacturing. They are a good way to start your list of tentative criteria. You also know from the first section of the case that the manufacturing people are dead set against the RIM, at least in the short term. Their resistance may have something to do with the manufacturing problems posed by the new part. You add that to the list of things you need to know.

From marketing, you know that products should answer specific customer needs. The issue of the RIM versus IHG must have some connection to customers. Does the new part benefit customers and, if so, in what ways? Of course, you first need to define who the customers are. A strategy course would get you thinking about competitive advantage. Could an innovative new part provide the company with a significant lead over its closest competitors?

Here is a list of tentative criteria and questions for investigating the two main options:

1. Cost
 - Will the RIM be more expensive than the old part? Or will it save costs?
2. Manufacturing process
 - Will it have a significant impact on manufacturing?
 - What will manufacturing have to do to produce the RIM? New process, equipment, training?
3. Customers
 - Will the RIM benefit them more than the old part?
 - Will customers be happy or unhappy if the RIM is chosen?

EXHIBIT 4-B

What should Schramm decide?

Options	Criteria
1. RIM	Cost
2. Parallel development	Manufacturing process
3. IHG	Customers
	Innovation

4. Innovation

- Is the RIM better than the old part? Why?
- Does considering innovation when making this decision have any advantages for Packard Electric?

You know the decision options and possible criteria (exhibit 4-B). You're ready to start exploring the case using your "need to know" questions.

5. Go through the case, skim sections, and mark places or takes notes about where you find information that corresponds to the list of things you need to know.

Here are some quick notes you might make in the margins of the case as you survey each section. At this point you don't know whether information is important to the decision. You use questions marks after the tentative criteria because you need to return later to see whether the information is relevant.

BACKGROUND

The competitive distress of its largest customer, GM.

- Customers? Innovation?

Packard Electric's products

- Description of the wiring product and the tremendous amount of engineering overhead the product required.
- Cost? Manufacturing process?

New product development organization

- Transfer of product design from automobile company to Packard Electric.
- Innovation?

The RIM grommet and its subsections

- Product was developed outside Packard Electric at customer design centers. Production problems of the RIM.
- Manufacturing process? Customers? Innovation?

Views on the RIM grommet

- Product development's views on the advantages of the RIM. Internal conflict: customer and product development want the RIM; manufacturing points out many problems with producing it.
- Cost? Manufacturing process? Innovation?

Case exhibits 1, 6, 7, 9

- Manufacturing process?

Case exhibits 2, 4, 5, appendix

- Relevant to any of the criteria?

Case exhibits 3, 8

- Cost?

Case exhibit 10

- Customer?

6. You're ready for a deep dive into the case. Carefully read and analyze the information you've identified that is relevant to the things you need to know. As you proceed in your analysis, ask, How does what I'm learning help me understand the main issue?

It may seem strange that only now, after multiple steps, you are ready to analyze the case. Yet thinking about possible decision criteria and finding

out where information about them is located in the case makes your analysis much easier, especially if you analyze the case one criterion at a time, considering information relevant to the criterion wherever it appears in the case.

Locating evidence in a case that answers questions about the main issue is one of the hardest skills for many students to learn. My hypothesis is that they (including you?) are used to textbooks and other similar materials in which the content has been carefully arranged in a logical order. They aren't prepared for a text that looks like the ones they have read before but doesn't arrange content in a strictly logical order. I've included case page references for the facts cited in the analysis that follows. You can advance your case analysis skills by studying how facts from different parts of the case are assembled into a foundation for understanding the main issue.

For the deep dive into "General Motors: Packard Electric Division," you start with cost because it is the most tangible of the criteria. It involves numbers and calculations that can provide precise support for or against a position.

Criterion 1: Cost

The case doesn't say the RIM will increase or decrease costs. Therefore, you first have to collect information. On page 175 of the case, you find that engineering change orders (ECOs) for the IHG consume a huge amount of engineering time. Packard Electric also maintains a large spare parts inventory of 45,000 for the IHG, but the cost of carrying the inventory is unknown. Later, on page 187, you find a mention of costs related to redesigning the IHG and the RIM. Exhibit 3 of the case (page 177) has more numbers about the proliferation of spare parts inventory and the tremendous investment of engineering time in them. The case has additional cost-related information such as numbers that indicate the RIM will have a higher initial manufacturing cost than the IHG. You decide to investigate cost issues for which you have the most information, including the ECOs, spare parts, and redesign.

Finding and understanding what the facts about cost mean is an example of how you have to contend with the "organized disorganization" of cases: the relevant facts appear in multiple sections and in the case exhibits. This characteristic can be frustrating, but it's meant to simulate the real world in which information tends not to be neatly packaged.

You now have information about three major cost categories: redesign, engineering change orders, and spare parts. However, you don't have all the numbers needed to calculate costs. Understandably, you might be ready to give up, but you can solve the problem by estimating some of

the missing numbers. This is another valuable lesson about case analysis. “Back of the envelope” calculations derived from both facts and reasonable guesses can build your understanding. The lesson applies to the real world too: seldom do you have perfect information for decisions.

You find you can’t estimate the cost of spare parts because the case gives only one number, the 45,000 items currently in inventory. You are left with redesign and ECO costs. The case notes that reducing the cost of ECOs is a major goal at Packard Electric (page 177).

The IHG part has to be redesigned every two or three years, according to the case (page 187), but it doesn’t say how often the RIM will need to be redesigned. How can you make a reasonable guess about the RIM? Because the RIM can accommodate twice as much wiring as the IHG, you assume it will only need to be redesigned every four years. That makes it possible to calculate comparative redesign costs. You multiply the cost of each engineering hour (\$50, as stated in the case) times the number of hours required for redesign: 600 hours for the IHG and 100 hours for the RIM. Exhibit 4-C shows that the RIM can save redesign costs each year. The savings equal 370 hours of engineering time.

Will the RIM have any impact on engineering change orders? Exhibit 4-D shows that it will. This calculation requires reasonable guesses too. The IHG ECOs consume half the time per year of 500 engineers, but the case doesn’t give the comparable number for the RIM. You know that the RIM has twice the wire capacity of the IHG and, unlike the old part, it has far more design flexibility than the IHG and can be used without modification in multiple car models (page 187). You estimate that the RIM will reduce ECO engineering time by half. For the calculation in exhibit 4-D, you assume that engineers work a total of 1,920 hours per

EXHIBIT 4-C

Estimating redesign cost savings, IHG versus the RIM

Part	Engineering cost	Retooling cost	Total cost	Frequency of redesign	Cost/year
IHG (old part)	\$30,000	\$13,000	\$43,000	Every 2 years	\$21,500
RIM (new part)	\$5,000	\$7,000	\$12,000	Every 4 years*	\$3,000
RIM savings/year					\$18,500

* Estimated

EXHIBIT 4-D

Estimating engineering change orders (ECOs) cost savings, IHG versus the RIM

Part	Number of engineers	Percentage of engineering time/year	Engineering cost/hour	Cost/year
IHG	500	50%	\$50	\$24 million
RIM	500	25%*	\$50	\$12 million
RIM savings/year				\$12 million

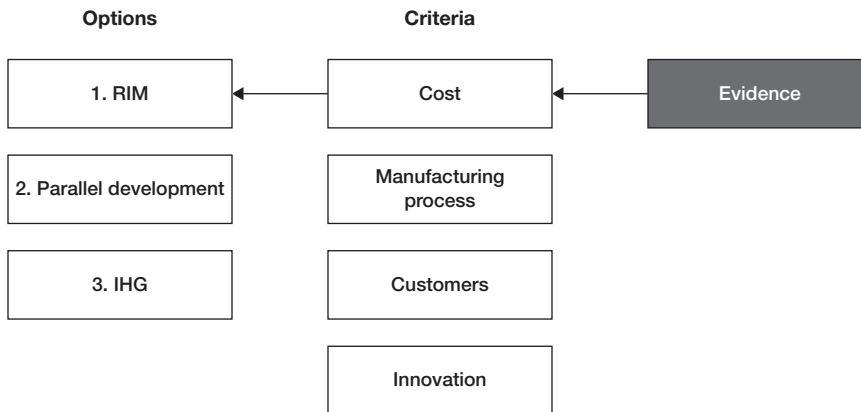
* Estimated

year (40 hours per week × 48 weeks per year). You can now make the cost calculations shown in the exhibit. Adopting the RIM could generate huge savings in ECOs. Your analysis shows that the evidence about costs strongly favors the decision to go with the RIM (exhibit 4-E).

You may wonder whether it’s realistic to spend the time required to calculate the cost savings when analyzing this case—or ones like it—for class discussion. That’s a fair question. You have a finite period of time to

EXHIBIT 4-E

What should Schramm decide?



work on a case and have to make choices about how to use it. If you were analyzing this case for a discussion, you could do any of the following:

- Decide you're going to be the expert in your class on cost savings and make all of the calculations.
- Make one or two of the calculations so that you can contribute to a discussion of costs.
- Note the facts in the case about costs and focus on other parts of the case.

Any of these alternatives can provide a foundation for constructive comments in a discussion of this case.

Criterion 2: Manufacturing Process

You now investigate your second criterion, manufacturing process. Here is the information that seems most pertinent to it:

1. According to exhibit 8 (page 185) in the case, the RIM grommet will cost more to manufacture.
2. It will be difficult to implement as it requires additional investment, new manufacturing technology, and workforce training. A manufacturing manager quoted in the case (“Views on the RIM Grommet”) says that the RIM is an important technology and the department can get the part up and running if it wants to, but it will be hard work (page 188).

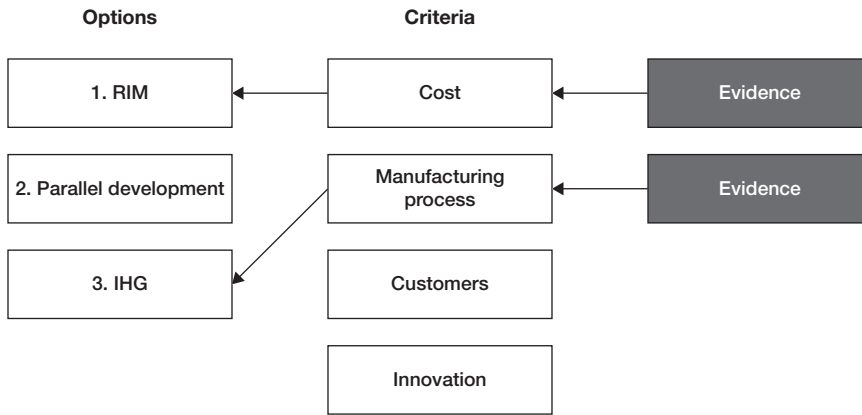
Not surprisingly, most of the evidence on this criterion favors the third option of continuing to use the IHG. You now have evidence for and against the RIM option. However, you should take time to think about the manufacturing problems.

The first two objections are based on facts. But product innovation often necessitates changes in manufacturing processes. Any new part is initially going to cost more to make than the current part, and this objection can be used to reject any innovation that involves either process changes or higher initial unit cost. Case exhibit 8 shows that the cost difference decreases rapidly over two years, which is what you would expect as manufacturing learns how to make the part more efficiently. Engineers made that very point: “As Packard Electric became more experienced with the technology, it could expect costs to drop significantly” (page 187).

The case also says that the customer has already committed to pay the higher cost. Another high-end customer in Europe has shown great interest in the RIM and doesn't seem to care about the cost either.

EXHIBIT 4-F

What should Schramm decide?



The third objection is manufacturing’s contention that it will have to work very hard to transition to the RIM on schedule. It’s true that manufacturing has less time than it should to switch the production process because product development mismanaged the schedule. At the same time, as noted above, manufacturing is confident that it could get a RIM production line working in time for the next model year.

The evidence regarding the manufacturing process seems to indicate that Packard Electric should continue to use the IHG (exhibit 4-F). Yet, the evidence also shows that the problems can be reduced or eliminated.

Criterion 3: Customers

Like the cost data, mentions of customers appear throughout the case. On page 173, you learn that Packard Electric’s main customer (and owner), General Motors, has been suffering large losses of market share, while Packard Electric has been growing, in part due to the continual increase in the electrical content of automobiles. When you were analyzing the cost criterion, you learned that the RIM can accommodate far more wiring than the old part with much less engineering.

As you collect information, a picture of the RIM’s value to customers emerges:

1. It has double the wire capacity of the old component, which is important because it enhances the customer’s competitiveness. General Motors and other Packard Electric customers can add more electrical content to their automobiles at a faster pace (page 187).

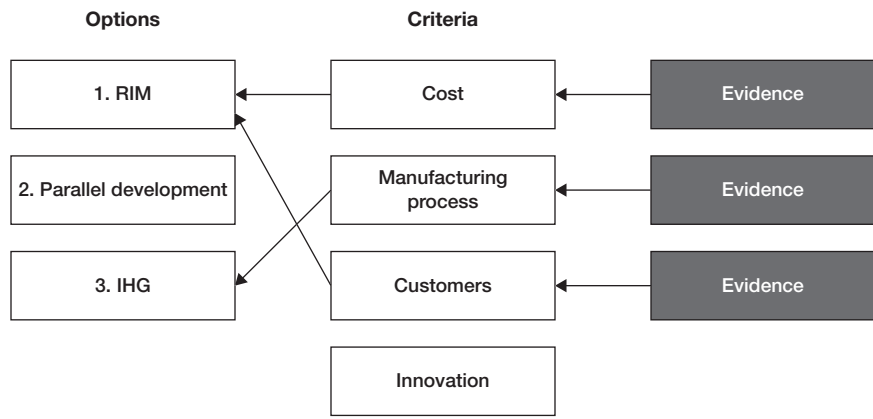
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2. It is less prone to breakage during assembly (page 187).
3. It simplifies the Packard Electric manufacturing process (page 189).
4. It takes up less space in an automobile, giving car designers more flexibility (page 187).
5. It is a better seal against water than the old component. Water leakage has been the subject of assembly plant, buyer, and dealer complaints. Packard Electric wire harnesses that allow leakage in tests or in actual use generate repair costs for the customers. The RIM may help increase buyer satisfaction and loyalty to the customer's brand (page 191).
6. A proxy for customer value is the fact that GM and other automobile companies are willing to pay a premium for the RIM. The customer was willing to pay almost twice as much for the RIM (page 185).
7. The RIM was developed collaboratively with the customer and has been promised for the next model year. The customer has expressed displeasure with the slow pace of development and is basing its production planning on the availability of the part (page 183).

You conclude that the RIM has a high value for customers and particularly for the owner of Packard Electric, GM (exhibit 4-G).

EXHIBIT 4-G

What should Schramm decide?



Criterion 4: Innovation

The RIM grommet is an innovative product in step with the trend toward more electronic content in automobiles. It imparts a dual competitive advantage. First, Packard Electric's customers, including its largest one, GM, can be more competitive because of it. GM, has lost 11 percent market share in nine years to foreign automobile companies and needs every competitive boost it can achieve. Second, Packard Electric can be more competitive because no other auto supplier has a comparable product. The RIM has other benefits for both Packard Electric customers and Packard Electric, as you learned from the analysis of cost and customers.

Internally, Packard Electric seems to have a problem with innovation. Product development at Packard Electric is disorganized and haphazard. Manufacturing is being forced into changing its processes on a short timeline, which likely increases cost and complexity and puts its engineers under pressure. Adding to the problem, manufacturing doesn't seem to have a voice in product development. It may be for these reasons that manufacturing engineers resist innovation.

But manufacturing engineers have some tendencies that might constrain innovation at Packard Electric: "They argued that the RIM process would not greatly decrease the [water] leaks. Kitsa Airazas, a manufacturing process engineer, believed that the customer misunderstood the sources of leaks" (page 187). The manufacturing people are saying that they understand the vehicles the customer builds better than the customer does. But the data in exhibits 7 and 10 in the case shows that water leaks are a problem in vehicle assembly and after vehicles are sold. Disputing the benefits of an innovation without dealing with the evidence could make product development of the RIM more difficult.

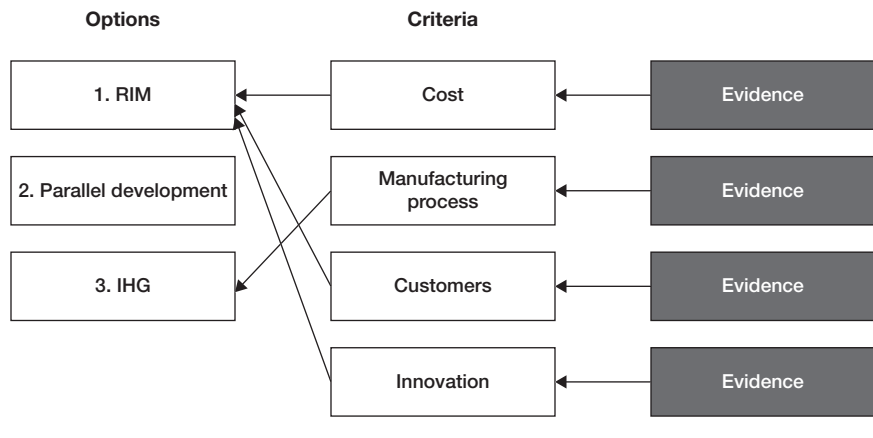
Your exploration of the evidence about innovation supports the RIM option (exhibit 4-H).

7. Your ultimate goal is to arrive at a position or conclusion about the case's main issue, backed by evidence from the case. Remember, there are usually no objectively right answers to a case. The best answer is the one with the strongest evidence backing it.

You've compiled facts and made calculations for four criteria. Overall, the evidence provides support for the RIM decision option. Although the manufacturing process criterion uncovered evidence for the status quo option, you conclude that the evidence was misleading. Nevertheless, before you commit to a position, think about alternatives to it.

EXHIBIT 4-H

What should Schramm decide?



The third decision option is “parallel development.” Is it inferior to going with the RIM? Two reasons suggest it is:

- Parallel development still requires that the problems with the RIM manufacturing process be worked out. If they were solved, why would Packard Electric want to limit the production of the RIM to half of the output?
- As the case itself says, the logistics of running two different manufacturing lines at Packard Electric would be nightmarish (page 190) and customers would have to decide how to use two different grommets on its assembly lines.

At this point, you’ve ruled out two options and you’re ready to commit to a decision recommendation supported by your analysis:

Packard Electric should adopt the RIM grommet for 1992 model year cars.

The evidence that the cost criterion brought to light strongly favors the adoption of the RIM. Packard Electric can potentially reduce the costs of grommet production by millions of dollars a year. The customer criterion also yielded strong support for the RIM option. The manufacturing process criterion revealed negatives that favor staying with the IHG grommet or splitting production between it and the RIM. However, analysis shows that the resistance from manufacturing might not be specific to

the RIM. It could block any innovative product. In addition, you've come to the conclusion that manufacturing's view ignores the benefits to Packard Electric and to its customers.

8. What actions does your position support or require?

A decision means little without an implementation plan. Implementation is critical because a great decision will be defeated by a poor action plan. Consider your analysis and write down thoughts about an action plan for the RIM decision:

SHORT TERM

- Manufacturing issues must be an urgent priority. Top management should be recruited to advocate for the change and pledge resources to support it.
- Representatives of all parties affected by the decision should form a task force to oversee implementation. The first step should be identifying the critical manufacturing issues and the obstacles to their execution. A tentative schedule should be agreed upon, with the task force closely monitoring it, moving resources as needed to keep to the schedule, and adjusting it as necessary.
- The product development engineers should assist manufacturing to make the RIM process scalable and reliable, the two principal production issues. Schramm should set an example by putting himself on a cross-functional team responsible for RIM manufacturing.
- The potential cost savings of the RIM justify hiring more engineers. Packard Electric should also consider buying the small vendor that makes RIM machines and have the vendor's technical employees work with Packard Electric engineers to solve the process issues and increase reliability.
- Resident engineers should keep their customers informed about the progress of the RIM project and coordinate the integration of the RIM into customers' assembly lines.

LONG TERM

- When the RIM process issues are solved and production begins, a task force should be formed that includes all of the stakeholders in

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the product development process. The task force should acknowledge the lack of cooperation between product development and manufacturing, discuss solutions, and produce a road map for a new process that better serves all internal stakeholders as well as customers, competitiveness, and product innovation.

- The new product development process should be formalized, tested, and modified as necessary. The Packard Electric incentive system should be changed to reward innovation and collaboration across groups.

CHAPTER 5

HOW TO ANALYZE EVALUATION SCENARIO CASES

An evaluation scenario in a case typically portrays a situation in which a deeper understanding of a subject—such as a person, team, product or service, company, country, strategy, or policy—is necessary before any critical decisions or actions can be taken. This deeper understanding comes from an evaluation, often of the worth, value, performance, effectiveness, outcome, or consequences (for example, of a decision that has been made) of the subject. Usually the main character of the case is responsible for the evaluation, but it is also possible for the main character to be the subject of the evaluation.

Evaluations are ubiquitous in the real world. Reviews of movies, books, musical and dramatic performances, cars, consumer technology, industrial machinery, restaurants, and virtually any other product, service, or artistic creation are evaluations. They all have the same practical purpose: to give people information that can help them improve something or that assists them in making a choice or a recommendation.

An example of an evaluation intended to improve something is a performance appraisal at work. It has a set of criteria relevant to the individual's job and identifies strengths and weaknesses and often leads to goals for capitalizing on strengths and improving weaknesses.

Evaluations are sometimes a prelude to a decision. For instance, you might read online reviews of Chinese restaurants to help you and your friends decide where to have dinner. The review content and star ratings are one category of information to consider. But you'll also use other information when making the decision, such as the restaurants' prices, specific menus, and distance from your home.

The analysis of a case evaluation scenario has six elements:

- Identification of the subject
- Criteria selection

- Criteria-based analysis
- Overall evaluation
- Identification of contingencies
- Recommended actions

This chapter defines the six elements and then presents the analysis of a case, using the elements and the reading process described in chapter 3.

Your professors will likely not ask questions based on the six elements. They will have their own ways of guiding the discussion. Nevertheless, by using the approach to analysis described in this chapter, you will be well prepared to answer a wide variety of questions about the case.

1. Identification of the Subject

An evaluation isn't possible without a clearly defined subject. The subjects of evaluation scenarios can be anything from an individual, team, product, and company performance to the effectiveness of a company strategy or a nation's economic policy. The desired understanding or knowledge to be gained from an evaluation is often the worth, value, performance, effectiveness, outcome, consequences, or risks of the subject.

Usually, a case leaves no doubt about the subject. Here's an example from early in a case about an unusual approach to an album release that a famous band is considering:

*Was the [marketing] plan, conceived by the band and its managers Chris Hufford and Bryce Edge at U.K.-based Courtyard Management, a brilliant idea, or, as some industry insiders suggested, another nail on the coffin of the dying music industry?*¹

This sentence asks an evaluative question about the band's marketing plan. The missing knowledge is the potential effectiveness of the unorthodox plan.

2. Criteria Selection

Criteria are the most important choice you make in an evaluation scenario, just as they are when you're analyzing a decision scenario case. The subject is almost always stated in the case, but the criteria rarely are.

Criteria are the answer to the question: What should I think about when I make the evaluation described in the case? In other words, What criteria should I use to make the evaluation?

You choose criteria that are relevant to the subject of the evaluation. The criteria for assessing an accounting issue are very different from those you would use for evaluating a change management initiative. Your choice will be influenced by the subject and the concepts or metrics appropriate to it. Net present value, for instance, can help you assess a potential investment or acquisition; the Gini index of income inequality can contribute to an assessment of a country's economic health.

In the band example, the specifics of the music industry would have an impact on criteria choice. At the time of the case, the industry was in the early stages of a profound shift from compact discs (CDs) to digital distribution of music. Some details about the shift are important in selecting criteria. For example, the economics of distributing a physical product and a digital one were very different. Also, piracy of digital music became a huge problem. Because the subject is a marketing plan, concepts from marketing, such as price, promotion, and distribution channels, are also an indispensable resource for criteria.

Everything said about decision criteria in chapter 4 applies to evaluations. To repeat a point made in chapter 4, criteria that yield a quantitative measurement are a good place to start an assessment. They can provide a foundation for further analysis.

Evaluation has an important requirement: it always needs to consider the positives and negatives of the subject. Virtually all evaluations are going to reveal both, because, in the real world, perfection is rare. Your analysis needs to follow the criteria wherever they lead. Case-based evaluation encourages two habits of thinking that are invaluable to business school students (and to students in many other fields):

- It enforces analytical honesty—that is, you follow the analysis where it takes you without a preconceived idea of what the ultimate outcome should be.
- It requires your evaluation to be firmly grounded in evidence instead of relying on opinion or conventional wisdom. By evidence, we mean information derived from the particulars of the case—its facts, exhibits, numbers, calculations based on the numbers, charts, dialogues, and narratives, rather than from general knowledge, your personal work experience, or material from outside sources such as the web.

3. Criteria-Based Analysis

The evaluation of a subject, directed by criteria, looks at the case evidence related to each criterion and considers whether it provides positives, negatives, or both about the subject. Your goal is to determine the positive or negative “best fit” between the criteria and the evidence. Each of those judgments contributes to the overall evaluation of the subject.

4. Overall Evaluation

The goal of your criteria-based analysis is an evaluation that takes into account what you have learned from applying your criteria to the subject. Your position should reflect both the positive and negative findings. You can't determine your overall evaluation based on whether there are more positives than negatives or vice versa. You have to make a judgment about the relative importance of the criteria and the findings based on them.

Here is an example of an overall evaluation you might have about a marketing case in which failure provided something positive:

The marketing strategy did not meet its sales and revenue targets—it was a failure on those criteria. But implementing the strategy revealed that most customers cared about a benefit of the product that the strategy ignored. What was learned was invaluable for repositioning the product.

5. Identification of Contingencies

Sometimes an evaluation requires acknowledgment of a contingency that could have a significant impact on the overall evaluation. For example, favorable assessment of a business proposal could be subject to the following contingency:

To fully realize their promising business model, the founders will have to raise more money. They can't build out their platform without a larger investment.

You should only be concerned with a major contingency, one that could have a significant impact on your position. A contingency isn't required for an evaluation. And it shouldn't be used as a hedge or evasion. It should call out a legitimate possibility but not stop you from taking a definitive position.

6. Recommended Actions

The purpose of an action plan is to improve the subject of the evaluation. Following your analysis and formulation of an overall evaluation, you should give some thought to actions.

Let's say you've evaluated a leader who is the main character of a case. Your evaluation is strongly positive. However, one negative you've found is her reluctance to deal with two managers who have worked in the organization longer than she has. They have caused turmoil and dissatisfaction in their groups because they've resisted implementing the leader's changes, which have strong support among group members. The performance of the troubled groups has declined. You could suggest actions the leader could take to get the groups back on track, starting with private discussions with each manager about the reasons for their resistance.

DEMONSTRATION: READING AND ANALYZING AN EVALUATION SCENARIO CASE

To get the greatest benefit from the demonstration of reading and analyzing a case, please read "Malaysia in the 1990s (A)" (pages 193–212). The demonstration utilizes and illustrates the reading questions described in chapter 3.

As you will see, the analysis of the case goes into great detail. The purpose is to show you how deeply you can delve into a case scenario with the tools and questions this chapter offers. To be a good participant in a discussion, however, you don't need to know everything about a case. Make sure, though, that you go deeply enough into the case that you will be able to shed light on the case's main issues in class.

1. Read the first and last sections of the case. What do they tell you about the core scenario of the case?

The case portrays a country that is being harshly criticized by environmental organizations. They allege that Malaysia is pursuing a development strategy that will destroy rain forests, harm biodiversity, and contribute to global warming.

In the first section of "Malaysia" the prime minister of the country is thinking about the charges of Western environmentalists. The country has been independent for only thirty years. During that period, it has enjoyed "healthy" economic growth and "relative" political stability.

Lately, environmentalists have begun decrying rapid deforestation. Their primary threat is that they will initiate a boycott of Malaysian timber products.

The last section (“A Western Timber Ban?”) says that the country’s biggest timber customers are in East Asia and not likely to support a boycott of Malaysian wood. It also says that in a speech to the United Nations, the Prime Minister is prepared to claim that a conspiracy theory is behind the calls for a boycott of Malaysian timber: “. . . the idea that the tropical rain forests can be saved only by boycotting tropical timber . . . is a ploy to keep us poor” (page 211).

2. Take a quick look at the other sections and the exhibits to determine what information the case contains.

The case has three major sections. The first covers information about the country: its history, economic strategy and performance, social issues, and politics. The second section gives an account of the forest products industry in the country. The last section talks about potential reforms to the way the country manages its forest resources and returns to the timber ban mentioned in the first section of the case. The first and second sections include multiple exhibits.

3. Stop! Now is the time to think rather than read. What is the core scenario of the case? What does the main character have to do? What is the major uncertainty?

Identifying the core scenario in this case isn’t as straightforward as it was in “General Motors: Packard Electric Division” in the last chapter. No decision is stated. You’re told that the main character, the prime minister of Malaysia, is considering the connections among the country’s economic strategy, the role natural resources have in it, and the criticism of environmental groups.

A major uncertainty of the case is whether the charges of environmentalists are objectively true. If they aren’t, all Malaysia needs to do is offer proof, which would nullify both the complexity and educational value of the case. You can assume that there’s enough of a suggestion of truth that it is worthy of investigation. If the environmentalists’ charges are true, the uncertainty shifts: How should the country respond?

The answer to that question must have something to do with how the country has been successful economically in its thirty years of independence. Has Malaysia enjoyed success because its economic strategy

depends on unsustainable logging? To clarify the uncertainty, you need to evaluate Malaysia's development strategy.

If you determine that the strategy is responsible for the problem, the prime minister could change it to avoid a boycott or ignore the threat. However, solving one problem could come at the cost of creating another one of equal or greater consequence. For example, a strategy that unsustainably depletes natural resources can eventually lead to economic decline and political upheaval.

Cases sometimes put an issue in the foreground that is less important than an issue in the background. That may be true in the "Malaysia" case. A boycott of timber exports could be less important in the long run than unsustainable development.

4. What do you need to know to accomplish what the main character has to do or to resolve the major uncertainty? List the things you need to know about the situation. Don't worry about being wrong.

How do you evaluate a nation's development policy? It certainly requires concepts and analytical tools designed to help you understand economic policy. Have you taken a course in which you learned relevant concepts and tools? For this case, macroeconomics offers a broad set of metrics that can give you essential information about the economic performance of the policy, such as gross domestic product, inflation, exports and imports, and the Gini index of income inequality.

A quick survey of the case suggested other criteria as well. It has sections on social conditions, politics, and environmental issues. All of those topics seem like good candidates for criteria. They're all connected to a country's development policy and to each other. In fact, it's the entanglement of all of these factors that gives this case its complexity.

You have four tentative criteria. They are general, which is usually a good way to start. Big-picture ideas help to keep your list short. You can then ask questions of each one to make them more specific and more helpful in analyzing the case evidence. Here is the list of four criteria with questions that can direct your analysis:

- Economics
 - Does the evidence support the prime minister's contention that the policy has been a success?
 - If so, does it have weaknesses or vulnerabilities that could spell trouble at some point?
 - Does the policy have any effect on logging in the country?

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- Politics
 - Are the political conditions stable as the prime minister has said?
 - What does “stable” mean and are there threats to stability?
 - Do politics have any connection to logging?
- Social conditions
 - What are the social conditions in the country?
 - Are they stable and what does that mean? Are there threats to stability?
 - Do these conditions have any connection to logging?
- Environmental issues
 - Is the logging in Malaysia sustainable or unsustainable?
 - If it is unsustainable, what are the reasons?
 - Is the government open to addressing unsustainability if it exists?

You know the possible criteria for the evaluation (exhibit 5-A) and you’re ready to start exploring the case using your “need to know” questions.

EXHIBIT 5-A

What is your evaluation of Malaysia’s development strategy?

Evaluation	Criteria
Positive	Economics
Negative	Politics
Neutral	Social conditions
	Environmental issues

5. Go through the case, skim sections, and mark places or take notes about where you find information that corresponds to the list of things you need to know.

Here are the notes you might take about the sections and their links to the criteria discussed later:

MALAYSIA

- Brief history of country
- Relevant to any of the criteria? See if history is relevant to other issues, like the social conditions or politics?

Economic strategy

- Description of economic strategy from independence to 1990.
Basic strategy: reduce commodity exports and increase value-added exports
- Economics

Social conditions

- Economic development is the platform for social stability. There are multiple ethnic/religious groups, tension among groups
- Social conditions

Political structure

- Political coalition of ethnic parties dominates politics. Could economics have an impact on politics?
- Politics

Economic performance

- Strong economic growth, uneven distribution of wealth, possibly vulnerable to outflow of foreign capital to countries with cheaper labor
- Economics

The forest products industry in Malaysia and subsections

- Description of how industry works, impact on forests, conflicts between Malaysian government and outside entities
- Economics? Politics? Environment

Environmental concerns

- Consequences of loss of rain forests, conflicts in assessment of timber harvesting: outside groups say there is too much timber harvesting, Malaysian authorities deny it.
- Environment

Possible changes in forest management and subsections

- Report of international organization calling for reduction of timber harvest in Sarawak, slow implementation; some environmental groups call for more aggressive action.
- Economics, environment

Case exhibits 3, 4, 5, 6, 8, 9, 10

- Economics

Case exhibit 7

- Social welfare

6. You're ready for a deep dive into the case. Carefully read and analyze the information you've identified that is relevant to the things you need to know. As you proceed in your analysis, ask, How does what I'm learning help me understand the main issue?

Here I'll repeat what I said in chapter 4. Locating evidence in a case that answers questions about the main issue is one of the hardest skills for many students to learn. My hypothesis is that they (including you?) are used to textbooks and other similar materials in which the content has been carefully arranged in a logical order. They aren't prepared for a text that looks like the ones they have read before but doesn't arrange content in a strictly logical order. I've included case page references for the facts cited in the analysis that follows. You can advance your case analysis skills by studying how facts from different parts of the case are assembled into a foundation for understanding the main issue.

A good starting point for your analysis of "Malaysia" is economics because it will yield numbers and calculations that can provide precise support for or against a position.

Criterion 1: Economics

Based on the data in the case, Malaysia's economic strategy has been a success. The country has enjoyed steady economic growth, an impressive

compound annual growth rate (CAGR) of 5.9 percent per year in the 1980s (calculated from numbers in exhibit 3). GDP has increased in ten years by well over 50 percent (calculated from numbers in exhibit 3), inflation (exhibit 6) and unemployment have been low (exhibit 6), and per capita income is substantially higher than in many other developing countries in the region (exhibit 8).

The government is steering the economy from a reliance on commodity exports such as timber to value-added products. Commodity exports fell every year between 1980 and 1990, including logs and timber, although at a slower rate than other commodities such as tin (exhibit 5). The percentage of manufactured goods leaped almost 40 percent, from 28 percent of total exports in 1980 to 67 percent in 1990 (exhibit 5). Unlike many developing countries, Malaysia has a small amount of foreign debt (exhibit 6).

Despite significant foreign investment, foreign capital could move on to another lower-wage economy if Malaysian wages continue to increase (page 203). The government could soften the effect of the exit if it can move the economy to value-added products and services.

Malaysia has a volatile mix of ethnic groups, with major income disparities. These differences sparked violence in 1969 that exposed the resentments of the Bumiputras, an amalgam of indigenous groups, who economically lagged far behind the Chinese and Indian segments of the population (page 202). The national government imposed the New Economic Policy (NEP), a system of preferences, quotas, and requirements meant to increase the wealth of the Bumiputras. The policy succeeded. The Bumiputras annual income increased faster than that of the Chinese, but the increases weren't large (case exhibit 7). The NEP also created incentives that distorted the economy. Businesses owned by Chinese had to have Malay partners, many of whom had no active role (page 202).

The ethnic divisions and continuing economic inequality made it imperative that Malaysia continues to grow the economic pie. Increasing the size of each group's piece will limit the resentments of all groups: the majority of Bumiputras will continue to increase their income and so will the more prosperous Chinese and Indian populations.

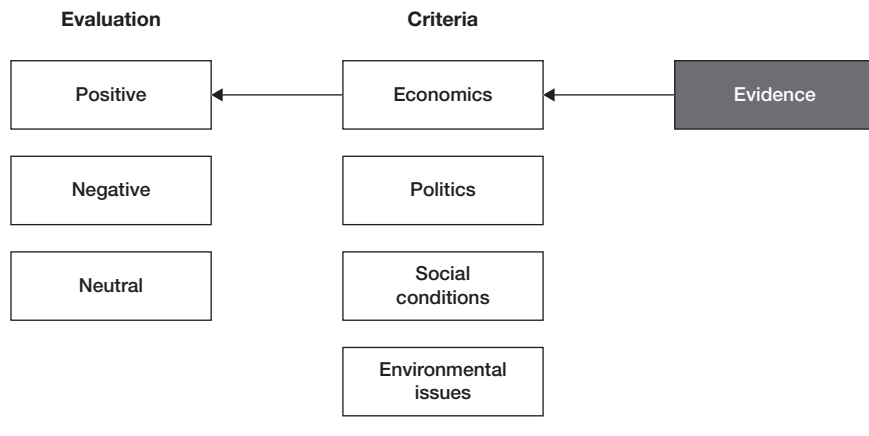
On this criterion, the development strategy seems to be working well and is reducing the export of timber (exhibit 5-B).

Criterion 2: Politics

The "Political Structure" section of the case is brief; perhaps the most significant conclusion you can take from it is that Malaysian politics are a delicate balance of ethnic groups. The Bumiputra majority leads the

EXHIBIT 5-B

What is your evaluation of Malaysia's development strategy?



national coalition that retains political power year after year. Malaysia isn't a one-party state, but only because the governing coalition changes from election to election. The core of the coalition is the United Malays National Organization, which is always a member of the ruling coalition.

The Malaysian population is ethnically diverse. Unfortunately, income inequities are divided along ethnic lines, creating political tension, social divisions, and violence. The Bumiputra majority has been the poorest segment of the population (case exhibit 7).

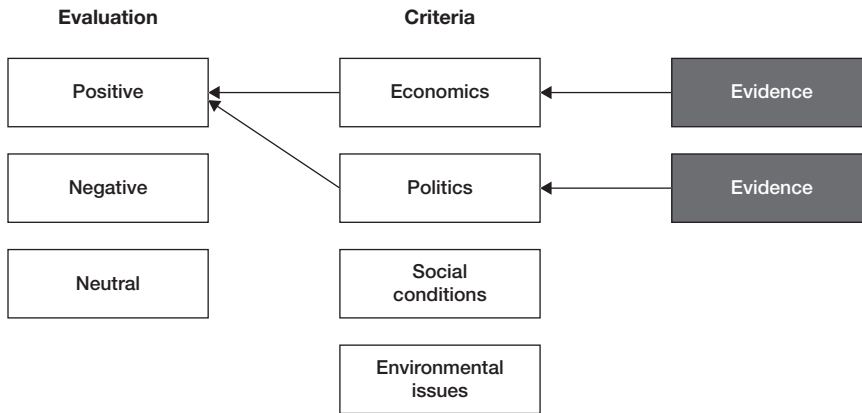
The ruling coalition voted the NEP into law to reduce income inequity. The law transferred some wealth from the minority Chinese and Indian population to the Bumiputras, but it didn't reduce the Chinese and Indian populations to poverty. They retained their business assets and increased their income from 1980 to 1990 (case exhibit 7). The economic bargain allowed all ethnic groups to realize income gains.

The country's development strategy has allowed the NEP to work as intended. If the strategy were changed abruptly to cut off exports of timber, the impact wouldn't be huge (inference based on case exhibit 5), but it would hurt the Sarawak region in particular because it depends on log exports more than other areas. The majority of Sarawak's population is Bumiputras, and they had the highest income growth rate in the country (case exhibit 7).

The success of the NEP warrants a positive evaluation of the development strategy on the politics criterion (exhibit 5-C).

EXHIBIT 5-C

What is your evaluation of Malaysia’s development strategy?



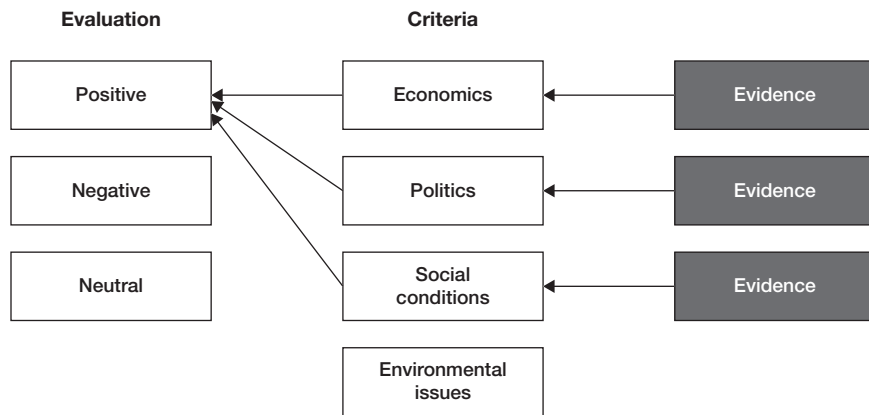
Criterion 3: Social Conditions

The Social Conditions section of the case has limited information. There’s nothing about health, education, housing, or employment. The case has information about the composition of the country’s population, which you can associate with the economic data in the case. However, social welfare does depend on stability, perceived opportunity, and prevention of violence—that is, safety for all inhabitants.

The 1969 riots and deaths threatened the delicate relationships among the country’s ethnic groups. The traumatic violence could have fractured the Malaysian population into warring factions. That didn’t happen. Since the NEP was mandated, the Bumiputras—the indigenous groups including the Malays and others—have enjoyed 2.7 percent annual growth in terms of household income as compared to 1.4 percent for the Chinese and 2 percent for Indians (case exhibit 7). In absolute terms, substantial income inequality persists. Still, rising prosperity across all ethnic groups promotes stability, which is the foundation for economic growth.

Although Malaysia has not performed as well as the “Asian Tigers,” such as Singapore and South Korea (case exhibit 8), it has fared well considering that the Tigers have homogeneous populations and other advantages that Malaysia does not. The country’s economic policy has improved the social welfare of the population. That being said, the NEP introduces economic inefficiencies: Bumiputra partners in minority businesses can be

EXHIBIT 5-D

What is your evaluation of Malaysia's development strategy?


paid large fees to front businesses but contribute nothing to the business. The arrangement invites corruption and resentment.

Despite the potential for social conflict because of ethnic divisions, the development strategy has a positive effect on social conditions (exhibit 5-D).

Criterion 4: Environmental Issues

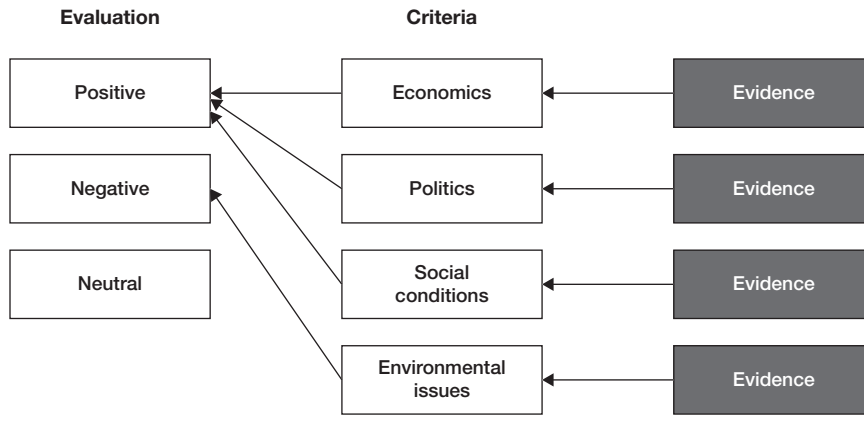
The government admits that the “timber harvests from Malaysia as a whole were greater than the sustainable level.” The question of deforestation is settled—yes, the country is harvesting too much timber. Nevertheless, Malaysia has 2 percent of the world’s rain forests (page 209) and the volume of timber exports has been steadily decreasing, in line with the economic strategy to reduce reliance on commodity exports.

Would a boycott of timber exports hurt Malaysia? It would probably have no effect on the Japanese businesses that import most of Malaysia’s raw timber. On the other hand, unsustainable logging would eventually harm Malaysia economically. Deforestation also imposes environmental costs such as soil erosion and increased flooding (page 208). Its global effects include reduction in biodiversity and a contribution to global warming. The current policies could at some point undermine the future they are supposed to bring about.

On this criterion, the development strategy seems to be a negative (exhibit 5-E).

EXHIBIT 5-E

What is your evaluation of Malaysia’s development strategy?



The Forest Products Industry in Malaysia

You aren’t quite done yet with your analysis.

The last part of the case poses a problem. It goes into great detail about the forest products industry. Is the detail worth analyzing? You need to proceed carefully by remembering that you’re studying a system of economic choices meant to benefit Malaysia. Understanding how the timber industry fits into those choices could deepen your evaluation of the development strategy.

When you look at this content closely, you learn several things:

- The country offered incentives to cut timber for the domestic wood products industry, and those incentives have worked to some degree, based on the data you found earlier in the case (page 207).
- Nevertheless, the concession system of timber harvesting rights on state lands awards rights to members of the dominant ethnic group, often relatives of powerful politicians. This is a situation ripe for corruption: politicians demand kickbacks for harvesting rights (page 206).
- The lucrative nature of the system encourages harvesting as much timber as possible to make as much money as possible.
- The national and the Sarawak regional governments invited an international organization to assess the forest products industry.

The organization recommended reducing timber harvests by 50 percent and putting more money into better enforcement of logging limits (page 210).

- Bureaucratic foot-dragging stymied better enforcement and the timber harvest has remained unsustainable (page 210).

The concession system in Sarawak in particular has effects that cut across the other three criteria. It has detrimental economic effects because of the way it is being managed. It encourages corruption and logging that exceeds sustainable levels because the national government has done very little to enforce limits in Sarawak. It also runs counter to the national strategy of transitioning from commodity exports to manufactured goods. Socially, it keeps the peace among ethnic groups, because all groups enjoy increasing income. Politically, it serves the interests of the local Bumiputra elite and their Japanese timber customers.

The situation in Sarawak seems to reveal a vulnerability in the country's development policy. It reduces income inequality, but in doing so, it encourages corruption, which reduces growth; thwarts the strategy to move up the value-added ladder to manufactured goods; and erodes the country's and world's long-term interest in preserving a valuable natural resource. It's a positive sign that the government is willing to invite international groups to assess the logging practices of the region.

When you investigated the section on the forest products industry, the concession system stood out. Overall, it seems to be a negative (exhibit 5-F).

7. Your ultimate goal is to arrive at a position or conclusion about the case's main issue, backed by evidence from the case. Remember, there are usually no objectively right answers to a case. The best answer is the one with the strongest evidence backing it.

The findings on three of the criteria support a positive evaluation of the development policy. The findings on the fourth, environment, are negative. In the near term, the environmental problems and economic distortions of the NEP seem less important than the economic, political, and social advantages. Overall, the results warrant a positive evaluation.

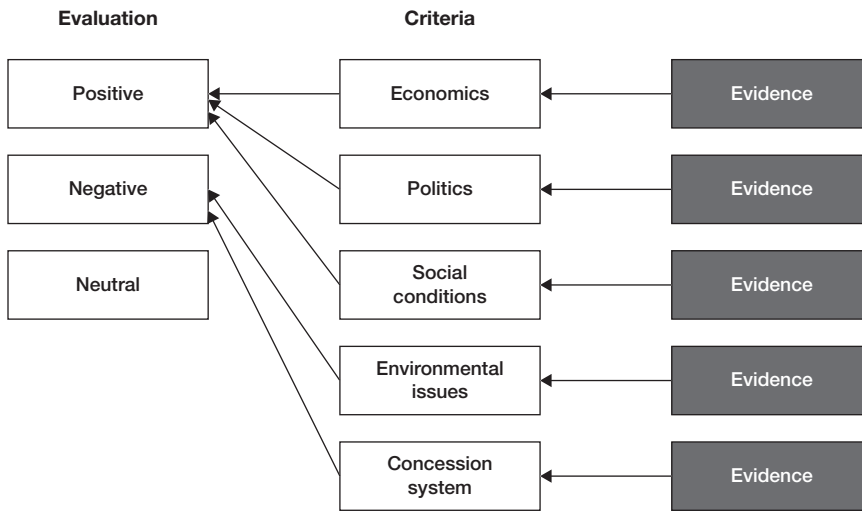
You state an overall evaluation:

Malaysia's development strategy has effectively promoted growth and political stability. It provides incentives to limit the harvest and export of unprocessed timber, although they don't seem to be effective in Sarawak.

What about alternatives, a negative or neutral evaluation? A negative evaluation would require the economic strategy to be detrimental to

EXHIBIT 5-F

What is your evaluation of Malaysia’s development strategy?



Malaysia and a significant contributor to the global destruction of rain forests. Neither of those conditions is supported by the evidence. The NEP isn’t a perfect mechanism for furthering income equality, but it’s better than the alternative of ethnic conflict. The concession system is vulnerable to corruption and encourages excessive logging, but the government seems to recognize this and is apparently willing to work toward a better system.

A neutral evaluation means that the positive and negative findings are evenly balanced. That isn’t accurate.

What about contingencies? The NEP contains the seeds of its own destruction. The transfer of wealth isn’t based on merit but ethnic identity; ultimately that can lead to economic stagnation or decline. The NEP and the concession system are vulnerable to corruption, which also leads to economic decline. Finally, Malaysian politics are based on ethnic identity, so the danger of conflict—violence and disruption—is always present.

In this case, adding contingencies to your overall positive evaluation is daunting but worth the effort. Here is one way you could do it:

Long-term development is contingent on three factors. The national government must stop unsustainable logging and timber exports. It needs a way to improve economic equality that doesn’t involve the transfer of wealth

from one ethnic group to another. It should also explore ways to decrease the exclusive ethnic identities of political parties.

8. What actions does your position support or require?

An important extension of an evaluation is an action plan. The goal of an evaluation action plan is to improve the situation. What actions would you propose to do that? The best way to state an action plan is to break out steps chronologically—short term and long term. Here are some possibilities based on your conclusion and contingencies about the “Malaysia” case:

SHORT TERM

- Convene a meeting of national and regional authorities. Lay out the risks of the current concession system to the country’s economic strategy. Give special attention to the detrimental effects of corruption.
- Ask for creative solutions to fix the concession system. Discuss how the local population can benefit from the system. What incentives can be offered to concession holders to support sustainable logging?
- Negotiate with the Sarawak authorities about a transition from the old concession system to a new one.
- Plan a transition period from the old system to the new one that includes building up better on-the-ground enforcement and a national system of auditing concession results. Recruit international environmental groups to devise the auditing system and to contribute ideas on how to generate revenue from the land without deforestation.

LONG TERM

- Continue to move toward an economic policy that diverts most logging output to domestic value-added industries, such as furniture making.
- Make it clear to the majority that it needs to invest in itself to succeed in the Malaysian economy and that the NEP isn’t a permanent policy. Invest in education to help the majority gain skills and become more actively involved in the economy. This is a much better way to realize positive economic results for the population than preferential treatment based on ethnicity.

- Study opportunities for more diversification in products and services. Provide seed funding from initiatives in different industries with significant value-added. Invest in training that will assist the Bumiputras gain the skills they need to participate in both established and entrepreneurial businesses.
- Nationalize enforcement of logging limits to eliminate local corrupt influences and dramatically increase penalties for exceeding limits.
- Continue to monitor the performance of the economic strategy and adjust as necessary.

NOTE

1. Anita Elberse and Jason Bergsman, "Radiohead: Music at Your Own Price (A)," Case 9-508-110 (Boston: Harvard Business School, 2008), p. 1.

CHAPTER 6

HOW TO ANALYZE PROBLEM-DIAGNOSIS SCENARIO CASES

What explains the success of one company and the troubles of another in an intensely competitive industry? How do you account for the sudden, precipitous decline of an entire economy? Why does a service that seemed to have limited potential explode into a billion-dollar industry, and why does a startup with a highly praised business plan and capital from prestigious investors flop?

We assume that these outcomes aren't arbitrary—that it wasn't only luck that produced them. While chance undoubtedly plays some role, if it were the only factor, business schools wouldn't exist. Some kind of logic underlies the end results. But what is that logic? An entire category of case scenarios poses this challenge: to understand the logic that explains why something happened or is happening.

Let's start with how to recognize the problem part of a problem-diagnosis scenario.

Problems are the effects of causes such as actions, processes, activities, or forces. Many problems in cases concern business pathology: managers who perform poorly, change efforts that fail to achieve their goals, and companies that violate laws and ethics.

Understanding business success is just as important. A hospital in Canada is the subject of a well-known Harvard Business School case. The hospital does only one thing: it surgically repairs hernias. The medical and financial results and customer satisfaction have been astonishingly good for decades. In this case, the problem is a remarkably positive outcome that far surpasses the results of conventional hospitals. The reasons for this prolonged success aren't obvious.

Thus, problem situations can fall anywhere between the poles of complete success and total failure.

For the reader, understanding that a case centers on a problem can be tricky. Considering what the main character has to do can help you identify a problem–diagnosis scenario. In some cases, the main character or other significant characters know what the problem is. For example, the president of a leading company in the United Kingdom poured money into an innovative product that he was certain would transform the industry. However, the product had dismal first-year sales. The president is acutely aware of the problem: the product he had great hopes for has been a serious disappointment. What does he need to do? Before he can do anything else, he must understand why it failed.

Sometimes, however, the main character has little if any awareness of a problem. In a case set in Mexico, the main character, a top executive, was absolutely confident about the future of a business on which the firm had placed a big bet, but when you “look over her shoulder,” you see evidence that the new business was actually doing poorly. In this case and others like it, the next task is to ask, What is the major uncertainty of the case? In this particular case, it is understanding why the new business wasn’t performing well. You could add a second uncertainty: Why was the top executive still so confident in the face of bad news?

Let’s turn to the diagnosis part of a problem–diagnosis scenario.

As defined earlier, a problem is an effect of a cause or, more likely, several causes. Diagnosis connects the problem to its major causes. Probably the most familiar example of diagnosis is one you have experienced yourself: you go to a doctor because you feel sick. The problem is that you don’t feel well. Often, problem definitions are equally as straightforward:

- A new product has had sales far below expectations.
- A division of a company is performing poorly.

Of course, you must have some kind of reference points that tell you what is or is not a problem. When you go to the doctor because you’re sick, your criterion is how you feel when you’re well. When a new product’s sales are disappointing, the criterion is the sales estimates that were generated for the product. When you perceive that a company or division is not doing well, your criteria can be a combination of previous financial results and market performance as well as historical retention rates for the company’s top talent.

When you’re sick, the doctor’s job is to diagnose the causes that explain why you feel sick. To do so, she needs to know more about the problem. She needs to gather evidence related to the problem of not feeling well. She asks you questions and you tell her that you feel congested, have a

runny nose, sneeze and cough, and have body aches and a headache. The doctor examines you and finds that your throat is red and your lungs are indeed congested. She is methodically gathering evidence and determining whether it fits a pattern that is characteristic of a cause—a disease of some kind. She tells you that you have a cold, which is the disease that best fits the evidence in her judgment—that is the doctor’s diagnosis.

The greatest benefit of a problem diagnosis is that it opens up the possibility of actions to solve the problem or mitigate it. Until a problem is accurately diagnosed, any action to fix it is essentially arbitrary. You make a guess about what to do, and if you’re lucky, it helps, but most of the time it won’t. Although there is no action that will cure a cold, the doctor tells you how to mitigate it: drinking lots of water, getting plenty of sleep, taking a pain reliever to tamp down the headache.

In short, when you encounter a problem-diagnosis scenario in a case, imagine you’re a doctor. You define the problem, gather evidence about it, diagnose the symptoms by matching the evidence to a pattern characteristic of a cause, and prescribe actions that can solve the problem.

Your professor will likely not discuss a problem-diagnosis scenario case using the approach in this chapter. He will have his own way of guiding the discussion. Nevertheless, using the concepts in this chapter will give you a rich understanding that will serve you well in class discussion.

The analysis of a case problem-diagnosis scenario has four elements:

- Definition of the problem
- Diagnosis through causal analysis
- Overall diagnosis
- Recommended actions

This chapter defines and provides examples of the four elements. In the second part of the chapter, the elements are employed in the reading process described in chapter 3 to analyze a case, “Allentown Materials Corporation: The Electronics Products Division (Abridged).”

1. Definition of the Problem

As already noted, analyzing a problem–diagnosis scenario in a case begins with defining the problem. You can do that by asking what the main character has to do and what the major uncertainty of the case is. A new executive has told a group of managers to follow a new policy intended to cut

manufacturing costs, but they don't. The main character, the executive, has to learn why they aren't following the policy. The major uncertainty is: Why did the policy fail?

2. Diagnosis through Causal Analysis

A problem is the result of causes. Diagnosis is an analysis that seeks to define the major causes responsible for the problem. Sometimes, this type of analysis is described as thinking backward: you reason from the problem back to its causes.

If you've read the previous chapters on decision and evaluation scenarios, you know that analytical tools—concepts, theories, and frameworks—are extremely useful in understanding a case scenario. When a problem is a company's poor financial condition, the principles of accounting can assist you in diagnosing the causes of that problem, such as excess inventory. The analysis of the case we will discuss in this chapter uses concepts about leadership and teams to help determine causes for a division's deteriorating performance.

Sometimes you can quickly tell what analytical tools to use for a problem–diagnosis scenario. A case about accounting is likely to require the accounting tools most relevant to the problem. A case about a company's dominance of an industry suggests that Porter's Five Forces or a comparable strategy framework would be a useful tool to grasp how the company secured long-term competitive advantage. The mixed results of a leader's performance call for frameworks that define effective leadership.

But sometimes a case may not provide a strong signal directing you to the concepts or frameworks with the greatest explanatory power. What do you do then? The best advice is to do what doctors do: they compile evidence and look for patterns that suggest possible causes and, in turn, analytical tools to investigate these causes further. The case used in this chapter to demonstrate problem diagnosis requires this kind of approach. An organization is suffering from poor performance. The case has a lot of information about the leader of the organization and key departments. But it isn't clear whether they both contribute to the performance problem and, if so, what they each contribute.

Problem diagnosis requires patience—in cases and in the real world. In decision scenarios, the decision that needs to be made is almost always stated in the case. In problem–diagnosis scenarios, you're responsible for defining the problem and the major causes. You will very likely need to

study the case evidence in depth to refine your questions about possible causes and to determine which conceptual tools can assist you. Then you can perform the analysis that will lead to a diagnosis.

How many causes are sufficient to diagnose a problem? This is an important question for which there isn't an exact answer. The complex problems featured in cases usually have multiple causes. But many causes result in a diagnosis that's hard to grasp and act on. If you find that you have a list of, say, ten causes, consider whether some of them can be included under a broader cause. For example, let's say you have several causes related to teams. You could combine them under a broader cause, team performance or team effectiveness.

Causation is often hard to prove to a high degree of certainty. Even scientific proofs of causation, like why the dinosaurs, the most powerful creatures that have ever existed, disappeared suddenly on an evolutionary timescale, have a significant level of uncertainty. The causes of problems that arise as a result of human actions can have an even higher level of uncertainty. Cases reflect real-world problems, which are often messy. Nevertheless, the real world frequently demands that we understand problematic outcomes, events, or results as much as possible. Careful application of concepts and frameworks to the evidence can yield diagnoses with an acceptable level of uncertainty.

But there's another factor to consider regarding diagnoses. The imperative of real-world problems is to fix them. For an organization that's being hurt by a chronic problem, diagnosis is necessary as a step toward the elimination or mitigation of the causes of the problem. Ignoring a significant and persistent problem has a much higher risk than making a diagnosis that may not be 100 percent accurate. Furthermore, in the real world, a feedback system exists that can tell you how accurate a diagnosis is: Did the recommended actions based on this diagnosis fix the problem, fix it partially, or fail to fix it? The answer to that question can lead to an adjustment of the diagnosis and a new set of actions.

When studying a case and working in the real world, your task is to deliver the best diagnosis you can—one that uses suitable analytical tools and is firmly grounded in the evidence.

3. Overall Diagnosis

Once you've conducted your analysis and identified what may be at the root of the issues described in the case, summarize the causes as your "overall diagnosis." This step is an opportunity to consolidate what you

have learned about the case, and take a position that summarizes your key analytical findings, which, in a problem-diagnosis scenario, include the problem and its most critical causes.

4. Recommended Actions

The purpose of a problem diagnosis is to direct you to recommend appropriate targeted actions to solve the problem. Once you're comfortable that you know the major causes of a problem, your next task is to think of actions that will eliminate or mitigate it: urgent short-term actions and substantive longer-term actions. Difficult problems with several causes aren't usually resolved overnight. They require time to fix. For example, changing the flawed culture of an organization isn't going to happen quickly. That kind of change effort requires actions sequenced over an extended period of time, from the present to months or even years later.

DEMONSTRATION: READING AND ANALYZING A PROBLEM-DIAGNOSIS SCENARIO CASE

To derive the greatest benefit from the demonstration of reading and analyzing a case, please first read "Allentown Materials Corporation: The Electronic Products Division (Abridged)" (pages 213–226). The demonstration utilizes and illustrates the reading questions described in chapter 3.

The analysis of the "Allentown" case is thorough and detailed. It shows you that you can dig deeply into a case scenario with the tools and questions this chapter offers. To participate effectively in a discussion, however, you don't need to know everything about a case. Make sure, though, that your analysis prepares you to help shed light on the case's main issues.

1. Read the first and last sections of the case. What do they tell you about the core scenario of the case?

The Electronic Products Division (EPD) is a troubled organization. Its financial performance has slumped in the last two years. Sales have stagnated (case exhibit 1), and operating income has plunged 63 percent in 1991 and remained about the same in 1992 (case exhibit 1). The markets that the EPD serves are much more competitive. The division has laid off employees, and Don Rogers, the general manager, tells the reader, "The organization is just not pulling together." EPD managers say bad business conditions are responsible for the poor results, while Rogers suspects that other factors are contributing to the division's decline, although he's not sure what they are.

2. Take a quick look at the other sections and the exhibits to determine what information the case contains.

The case has six major sections. The first two provide background about the corporation and the EPD. The next section describes Rogers's history at EPD, which should include clues about the effectiveness of his leadership. The section on pages 220–224 describes the current state of four major departments and should have information about how they're performing. The next-to-last section focuses on product development, which seems to signal that it's an important function. You now have a map of where some key information resides.

3. Stop! Now is the time to think rather than read. What is the core scenario of the case? What does the main character have to do? What is the major uncertainty?

A key strategy for figuring out the core scenario is to ask what the main character needs to do. Rogers knows there's something wrong with the EPD. Its performance is well below what it was just a few years ago, and he sees many troubling issues internally. However, he doesn't know the causes of the problem and is "not sure what he needed to do." The second test for the core scenario is to ask what the major uncertainty of the case is. Rogers doesn't know why the division is floundering. Both tests confirm a problem–diagnosis scenario.

4. What do you need to know to accomplish what the main character has to do or to resolve the major uncertainty? List the things you need to know about the situation. Don't worry about being wrong.

The two main things you need to know are:

- What specifically is the problem?
- What are possible causes?

Problem

Based on the information in the first and last sections, you can broadly define the problem: the EPD's performance is falling and the organization seems very troubled. It's best to keep the definition of the problem in a case simple. The more complicated it becomes, the more difficult it is to discover causes responsible for it.

Causes

At the center of the case is Don Rogers. He certainly knows that external conditions have hurt the division. But he doesn't think they're solely responsible. What could be responsible?

In cases in which the core scenario is problem diagnosis, factors external to the subject of the case (e.g., an individual, an organization, even a country) are often influential. That seems to be true in this case. The first section of the case suggests that market changes are having an impact on the EPD. This is a subject worth exploring. You've also learned from Rogers that EPD's morale is low and it's suffering from internal conflicts and a lack of coordination. You should definitely explore these internal issues, including what Don Rogers has or hasn't done, to see whether they're affecting the performance of the division. You can now write a list of questions to guide your diagnosis:

EXTERNAL CAUSES

- What are they and do they have an impact on EPD performance?

INTERNAL CAUSES

- Don Rogers
 - Is he contributing to the problem?
 - Do you know leadership frameworks that can help you answer this question?
- EPD departmental teams
 - Are they contributing to the problem?
 - Do you know any frameworks that can help you answer this question?
- Company culture
 - Did the culture Bennett shaped have an impact on the troubles of EPD?

5. Go through the case, skim sections, and mark places or takes notes about where you find information that corresponds to the list of things you need to know.

Here are the notes you might take as you move through the sections of this case:

ALLENTOWN MATERIALS CORPORATION

The EPD and its history

- There has been a major shift in the markets EPD competes in: competition has become intense, prices have declined, and product development has become a critical function. Joe Bennett, a powerful, authoritarian leader, was innovative and made all key decisions, which the EPD teams executed without dissent. He commissioned an organizational development plan that wasn't completed when he died.
- External causes, leadership transition, culture

Don Rogers takes charge

- Rogers has a background as a technical specialist; he has limited management experience, is open and involved others in decisions; he dominates meetings, is a bad listener, and doesn't hold people accountable; and he is unaware of different incentives across teams. At the urging of corporate, he moved the EPD headquarters, the marketing team, and the head of product development to the corporate offices in Allentown, changed all key managers, and canceled Bennett's organizational development plan.
- Rogers's leadership, differences in leadership, culture

Review of the functional departments in 1992

- Manufacturing has been the source of company leadership for years; its incentives are tied to gross margins and not to service; it has conflicts with the other three departments. Marketing has mostly inexperienced people, is overwhelmed by responsibilities, and has a significant role in product development that it isn't prepared to fulfill. Its financial criteria are unchanged despite a big shift in market conditions and a conflict with manufacturing. Sales is compensated on volume and does not work well with marketing or manufacturing. Product development has a conflict with marketing and corporate technical support.
- EPD departmental teams

The new product development process

- There is chaos in new product development and nothing gets done. Meetings are attended by twenty people and others are brought in from outside; problems are not discussed or solved and schedules are never met.
- Rogers's leadership, EPD departmental teams

Case exhibit 1

- External causes

Case exhibit 2

- Relevant to any possible cause?

Case exhibit 3

- Relevant to any possible cause?

6. You're ready for a deep dive into the case. Carefully read and analyze the information you've identified that is relevant to the things you need to know. As you proceed in your analysis, ask, How does what I'm learning help me understand the main issue?

As I've mentioned in chapters 4 and 5, locating evidence in a case that answers questions about the main issue can be a difficult skill to learn. After reading countless textbooks and other similar materials in which the content has been carefully arranged in a logical order, you may not be well prepared for a text that looks like the ones you have read before but doesn't arrange content in a strictly logical order. I've included case page references for the facts cited in the analysis that follows. You can advance your case analysis skills by studying how facts from different parts of the case are assembled into a foundation for understanding the main issue.

You've defined the problem and are ready to investigate external and internal causes. When you skimmed the case sections and took notes, you found another potential internal issue. The former leader of EPD, Bennett, was very different from Rogers. Could the difference have something to do with the problem?

External Causes

As you learned from the first section of the case, the EPD's operating results have plunged in the last two years. The division had never had serious competition until lately. Then the markets that the EPD serves shifted dramatically toward lower prices and margins, and there were many competitors (page 215). You can infer that EPD wasn't well prepared to compete. The highest-margin products are new products. You noted that the product development process (pages 224–225) seems to be almost paralyzed, which would put EPD at a major competitive disadvantage. Finally, corporate headquarters has set "aggressive profit targets" (page 213) that don't seem to take into account the huge change in the industry.

Changes in the external business environment aren't unusual. Healthy organizations may struggle to respond to them, but they don't expect current conditions to prevail forever. They generally look for change, and when they see it coming, they pull together and adjust. The market shifts seemingly have taken the EPD by surprise. The division has made some difficult changes, such as laying off some employees, but not others. Why not?

Internal Causes

Don Rogers

In the “Don Rogers Takes Charge” section, you learn that he has a strong technical background but very little management experience. Yet, he has been put in charge of an organization with nearly a thousand people, including experienced managers. No one is coaching him to be a better leader, and he seems detached from the people who work for him—often literally detached because he's not physically present. There is enough evidence pointing to leadership issues to think about analytical tools that can organize the evidence and point to causes.

EPD Departmental Teams

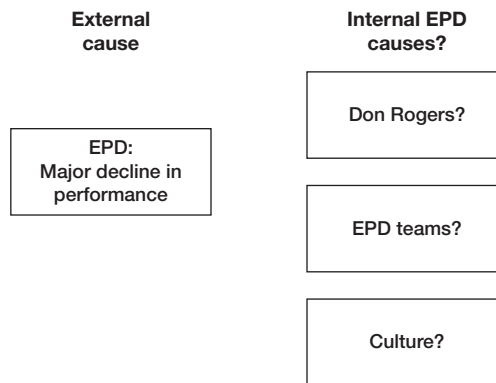
To get a sense of what is going on in the departmental teams, you read the section “Review of the Functional Departments in 1992.” It becomes very clear that manufacturing, sales, and marketing blame each other for a variety of issues that reduce the performance of the division. Marketing, for example, thinks that the priorities of the EPD's product development group are wrong; the team also thinks that manufacturing isn't taking the risks needed to compete (page 222). The observation of warring teams warrants using a framework that defines team effectiveness; it might help explain why these teams are in conflict.

There's something of a chicken-or-egg question here. Does bad leadership lead to the team problems or do the team problems hobble Rogers's leadership? Or do they both lead to a downward spiral?

Company Culture

On page 216 you learn that the former leader, Joe Bennett, was an authoritarian leader. His style of leadership had a couple of major impacts on the organization. First, Bennett made all the important decisions, so managers underneath him were used to taking orders, not making decisions themselves or working with their peers on decisions. Second, the people who succeeded under Bennett were “political and manipulative.”

EXHIBIT 6-A

What are the causes of EPD's performance problem?

Rogers had worked at headquarters, which operated like a “close-knit family” (page 214). There was little formal hierarchy, and people at all levels discussed business issues. Rogers’s behavior at the EPD suggests that he isn’t aware of the different culture he is now operating in and won’t take on the role of ultimate decision maker or transition the culture to devolve power and decision making.

You now have a set of possibilities for causes of the EPD’s performance problem (exhibit 6-A).

You have learned a lot about Rogers, his leadership, and the functional groups. As a result, you modify the questions about what you need to know. You now have specific questions about Rogers and the teams:

How is Rogers’s leadership contributing to the problem? Do you know leadership frameworks that can help you answer this question?

How are EPD departmental teams contributing to the problem? What frameworks can help you answer this question?

What role does culture play? Are cultural issues contributing to any of the team problems?

Remember that concepts and frameworks relevant to the subject of a case can aid your analysis of it. To analyze Rogers’s leadership, you note that the division is in the midst of a traumatic market and leadership shift (given that the previous general manager died), so concepts that fit an

environment of change might be useful. A well-known framework for leading change is John Kotter's eight-step model:

1. Create urgency.
2. Form a powerful coalition.
3. Create a vision for change.
4. Communicate the vision.
5. Remove obstacles.
6. Create short-term wins.
7. Build on change.
8. Anchor the changes in corporate culture.

Given the central role of the departmental teams in the case, your analysis could also use a framework that describes team effectiveness. You can use one derived from Google's attempt to define characteristics of its high-performing teams:

- *Psychological safety*: Team members feel safe to take risks.
- *Dependability*: Tasks are done on time and with high quality.
- *Structure and clarity*: The team has clear roles, goals, and plans.
- *Meaning*: The work is important to team members.
- *Impact*: The team thinks its work matters and makes a difference.

You may wonder how you can use two frameworks with a total of thirteen concepts to analyze one case. Most frameworks are designed to be used differentially—that is, you use the parts that apply to the situation. So, when you use Kotter's framework, you're looking for the parts of it that help you understand Rogers's role. You should apply the Google framework the same way: use only the parts that help you understand the evidence. (Note: the two frameworks were chosen to illustrate how they can help the analysis of this case. There are many other frameworks that can accomplish the same purposes, and your professors will have you use the ones they've found to be effective.)

Rogers's Leadership: How Is His Leadership Contributing to the Problem?

Rogers was promoted into a division with serious problems. The competitive conditions had changed drastically and required a divisionwide

response. He had great technical knowledge but no significant management experience. It was unfair of Allentown management to put him in a crisis situation that would test the most experienced leader. He had the bad luck to succeed Bennett, a domineering individual who shaped the organization to serve his style of leadership. He made all the decisions, and the teams executed them. It worked because Bennett was brilliant, restlessly searching for new products and markets, and had enough talent in the departments to get things done.

Rogers arrived and seemed unaware of or unconcerned about Bennett's impact on the EPD. Rogers didn't inquire about the current culture of the division and whether his style of leadership would conflict with it, but that isn't surprising considering his lack of experience. He had vague plans for giving teams decision-making power, a responsibility they weren't prepared for because their former leader, Bennett, didn't give them that power or mentor them in those competencies. Rogers participated in meetings and shared his considerable expertise but didn't listen well and didn't try to help resolve conflicts. In product development meetings, he seemed to see his role as a technical consultant, not as a leader responsible for results.

He made structural and personnel moves that were clearly mistakes because they didn't serve the needs of the organization. He moved EPD headquarters back to corporate and was often absent from the division's facilities, preventing him from building relationships and alliances to gain trust and hasten change. He physically separated the functional groups. The worst example was splitting marketing from sales. Marketing employees were young and inexperienced hires and badly needed the market knowledge of sales. Rogers got rid of almost all of the experienced managers at a crisis point for the division. Essentially, he dispersed the organization and replaced most of the management team. Rogers was in effect leading a change effort, apparently without realizing that he was doing so. The case doesn't reveal why Rogers made so many radical changes in a short period of time. Was he trying to establish his authority by ridding himself of managers hired by Bennett? Did he want to diminish the independence of the EPD when he moved the division's headquarters to corporate?

Using Kotter's framework for managing change, you explore how Rogers may have contributed to the EPD problem.

Create Urgency

Even though EPD's financial, service, and quality performance plunged, Rogers did nothing to stimulate a sense of urgency. In fact, if anything, he's done the opposite by attending product development meetings and focusing strictly on technical details, while doing nothing to galvanize the

members to resolve differences and move projects ahead. He's apparently said nothing about the group's lack of productivity.

Form a Powerful Coalition

Leaders need partners to create change. Rogers often absented himself from the division, focusing instead on corporate projects. This left him less time to form relationships within the division and implicitly signaled that for him, corporate projects were at least as important as his leadership of the EPD. He jettisoned experienced managers who might have been allies. The case doesn't provide any evidence that he reached out to managers and employees in the functional groups. He seems isolated and oblivious to the fact that this does not allow him to have his finger on the pulse of what's going on within his own division.

Create a Vision for Change

EPD's business has changed in fundamental ways and has suffered major turnover in its management ranks. Departments are scattered among multiple locations. Bennett didn't need to create and sell a vision to EPD employees because he made all of the major decisions. The division clearly needs a unifying vision to orient everyone toward the same goal. Corporate isn't furnishing a vision, and Rogers hasn't created one and seems to be unaware that he needs one.

Communicate the Vision

Without a vision, this part of the framework is moot.

Remove Obstacles

The division is littered with obstacles, especially conflicting incentives, that are blocking work and sharpening conflicts. Rogers should be doing everything in his power to remove them, recruiting help from both managers and employees, but he appears to be indifferent or is afraid of the conflict he might create. Or is he dangerously ignorant because of his limited experience and lack of professional training in leadership?

Create Short-Term Wins

The EPD is so stalemated that quick wins aren't possible. Many obstacles prevent them, and Rogers doesn't seem concerned with jumpstarting new product development. Once again, he may be severely handicapped because he doesn't know what a leader should do in the circumstances confronting him.

The last two parts of the framework, build on change and anchor the changes in corporate culture, aren't relevant because no change has occurred.

Your detailed analysis of Rogers shows emphatically that his leadership has been a major cause of the EPD's problematic performance.

EPD Teams: How Are They Contributing to the Problem?

Teams seem to be a major cause of the problem. The challenge is to organize the evidence to make the team-related causes clear. For that task, you apply Google's team-effectiveness framework.

Psychological Safety

From the accounts of the product development meetings in the case, you learn that people spoke up and weren't afraid to argue with each other. However, the constant slippage in deadlines wasn't discussed, which suggests that participants didn't feel safe doing so. Just as important, no one offered solutions to the problems that dominated discussions. It would be fair to extrapolate that the participants did not experience a deep sense of safety.

One factor that may contribute to the lack of safety is that employees who worked for Bennett, the previous boss, weren't responsible for solving problems or debating them productively across team lines and had no concrete incentive to do so. Glenn Johnson's poignant statement about being so anxious that he can't sleep the night before product development meetings is additional evidence that, psychologically, safety is an issue.

Dependability

Product development seems to be spinning its wheels. Deadlines are continually missed, and no one in the meeting cares or dares to speak up, while Rogers doesn't provide protection for participants who might want to address the absence of meaningful schedules and says nothing himself. Worse, he never draws a line in the sand. One manager goes so far as to say that he knows he should be held accountable, but he has nothing to fear from Rogers.

Dependability is also an issue between the functional groups. All of them seem to be saying that they can't depend on the others. Manufacturing thinks that sales is asking the impossible in terms of service and delivery and isn't bringing in orders that manufacturing can make profitably. Sales is frustrated that manufacturing is much more interested in margins than its customers. Marketing isn't giving product development the input it needs to move forward, and corporate isn't providing technical support. Sales isn't giving marketing the information it needs to plan new products.

You can speculate that when Bennett was in charge, he demanded and enforced dependability and accountability. Now that the domineering leader has passed from the scene, the departments aren't ready or prepared to self-regulate. In addition, Rogers has dispersed the organization to different locations so antagonists are rarely in the same place at the same time to work out differences.

Structure and Clarity

The product development team has no concrete goals or plans. It doesn't have an identity of its own. Members champion only the parochial interests of their respective groups. No one seems to be concerned about, much less have an allegiance to, the goal of improving the division's competitiveness in a tough market. Every department seems to be in a zero-sum competition with the other departments.

There is a major structural problem encouraging us-versus-them thinking: the groups' incentives are in conflict. Manufacturing managers are compensated on the basis of gross margin. In military contract work, prices don't change much and the margins are likely to be high. It's an entirely different situation in the consumer market, where prices are low and seem to be going lower.

Manufacturing should have the flexibility to accept reduced margins and has to learn how to efficiently produce smaller volumes more quickly. Manufacturing has incentives tailored to one market that don't make sense for the very different new one to which it must pivot.

Salespeople are compensated on volume as opposed to price; if they trade off lower price for higher volume, they can put manufacturing in an impossible position. In addition, sales pushes for quick manufacturing and delivery, while manufacturing insists that rush orders must fit into the normal production flow to allow it to meet its gross margin targets.

Marketing is a pivotal group in EPD's structure. It is responsible for gathering market information (including input from sales), identifying new product opportunities, and working with other departments to make sure new products are developed. However, the department has a dearth of experience, is being held to unrealistic profitability targets, and has no control of product development.

New product development appears to have no incentives unique to its mission. The participants are all pursuing the conflicting incentives of their respective departments. It seems inevitable that the product development meetings are a tug of war between people with very different goals.

The EPD has a structure, but it means little because there is no clarity.

Meaning

This factor isn't useful because there is very little evidence about it.

Impact

None of the teams seems to recognize that they are interdependent and can have positive impact only when they collaborate. This is probably an unfortunate legacy from Bennett. He controlled the work of the EPD and probably saw no need to spread the message that the sum of the parts was greater than the whole. Bennett undoubtedly made sure that the departments subordinated their interests to the division's through his exercise of personal control.

With the disappearance of centralized control, the impact that seems to matter to each team is getting the other teams to do what it wants them to do. No one rises above the clash of parochial interests and forcefully asserts that no department can succeed without the other departments on which it depends.

There is another dimension to impact in the EPD. Manufacturing employees tend to be older and very experienced. Their department is the source of many corporate executives. The salespeople are young, as are the marketing team members, who carry the added liability of little experience. Given their organizational advantages, manufacturing is probably going to have more clout internally than the other groups.

Of course, we can't assess team performance in a vacuum. Many of these symptoms could have been lessened had Rogers effectively transitioned the team to a less top-down culture and provided both examples and tools to put it on a more collaborative path.

Through your analysis, you've found that teams are a root cause of the EPD's problem.

7. Your ultimate goal is to arrive at a position or conclusion about the case's main issue, backed by evidence from the case.

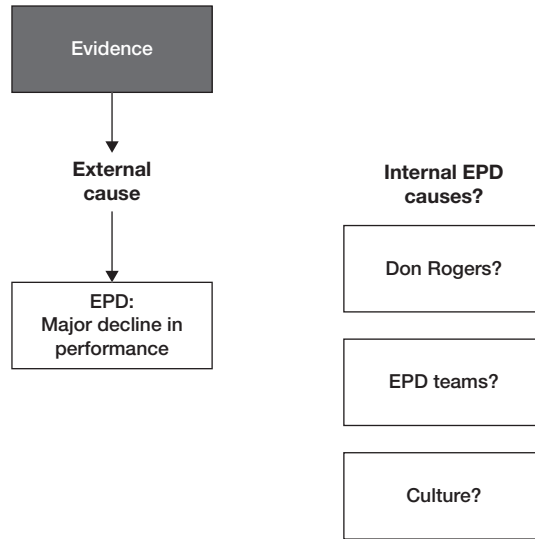
Remember, there are usually no objectively right answers to a case. The best answer is the one with the strongest evidence backing it. At this point, you can take a step back and consolidate what you have learned into a list of primary causes.

Cause 1: External Causes

External forces created pressure on the EPD to adapt both its products and processes. The economics of the new civilian markets hurt it because it was used to the stability and profitability of government work. The

EXHIBIT 6-B

What are the causes of EPD's performance problem?



relatively rapid shift in markets and economics created a need for the EPD to change the way it operated. Surprisingly, corporate hasn't played a constructive role in aiding the EPD in understanding the market and making the changes necessary to compete in it. In fact, it has made the situation worse by continuing to impose profitability targets that are no longer realistic. Meanwhile, the EPD seems stuck in the past. It lost its authoritarian leader suddenly, which would be difficult under any circumstances but even more so with the external pressure. Rogers isn't aware that his managers and employees are ill prepared to work together and make decisions they have never had to make before. Also, he doesn't seem to realize the critical role product development plays in the growth of the EPD.

You've found solid proof that the external environment has been a factor in the EPD's decline (exhibit 6-B).

Cause 2: Rogers's Leadership

Rogers doesn't seem to know what a leader is supposed to do. He continues to act in the role of a technical manager and doesn't recognize that the EPD is suffering from a leadership vacuum. The situation he faces would be formidable for an experienced executive; for a novice, it seems close to

impossible. It's almost unfair to assign him a major role in the troubles of the division because he is so ill prepared and has been left on his own by corporate.

He has made his task much more difficult through acts of commission and omission. Getting rid of almost all experienced managers denied him their experience and knowledge and their potential as members of a coalition to manage change, and may have created ill will among the remaining employees, who could view the dismissals as arbitrary and unfair. Corporate encouraged him to move EPD headquarters back to Allentown; on his own, he split sales and marketing, moved the latter to Allentown, and separated the head of product development from product development teams at the plants. Physically separating key functions and managers in an organization that was already spread across three plants and four sales districts likely discouraged cross-team collaboration and intensified and prolonged conflicts. His own long absences from the division deprived him of time to work on the mounting issues and may have sent a message to employees that he wasn't interested in them.

The EPD departments can't improve the situation on their own. They need someone who can take a step back, see the big picture, and persuade teams to accept a common vision. The new product development group is a key to the success of the EPD and a potential vehicle for quick wins. Rogers doesn't understand that either and is oddly detached from the purpose and progress of the group. He seems to be more concerned with avoiding conflict than asserting accountability in the face of foot dragging and excuses. Finally, he stopped Bennett's organizational development project that could have provided him with crucial information about the EPD and action plans for improving it.

There is ample evidence to show that Rogers's leadership is therefore a primary cause (exhibit 6-C).

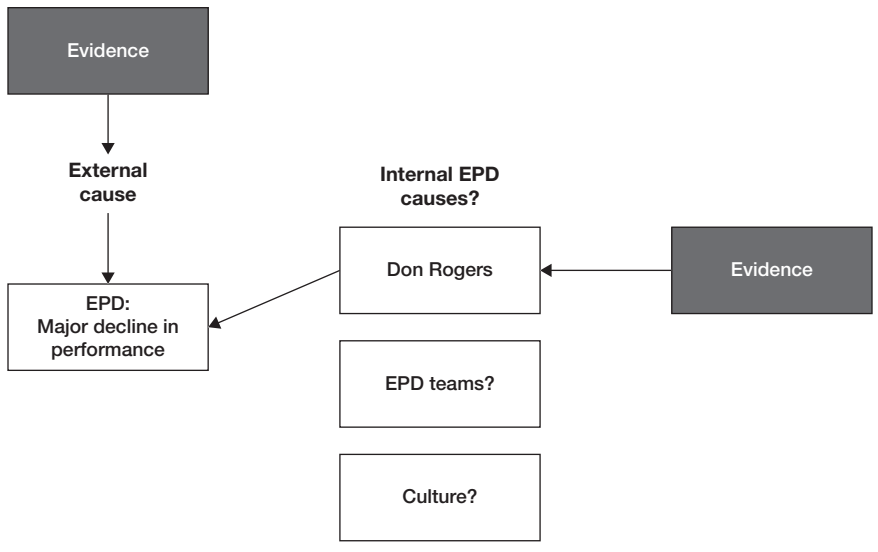
Cause 3: EPD Teams

EPD teams are definitely contributors to the EPD problem. They are unprepared to cooperate and make decisions. They work at cross-purposes in part because of contradictory incentives, no preparation for active roles in the division's decision-making process, no apparent sense that they are interdependent, and little willingness to take risks. Another significant issue is that marketing doesn't have the experience or institutional weight to carry out its mission well. It is languishing, but no one seems to be paying attention.

The new product development team seems completely dysfunctional. It comprises warring factions that are more interested in blaming each other

EXHIBIT 6-C

What are the causes of EPD's performance problem?



than getting anything done. There is no accountability and no awareness that the team may hold the fate of the division in its hands.

The EPD isn't one organization at the moment; it's a collection of competing factions that need leadership. Teams are another major cause (exhibit 6-D).

Cause 4: Culture

The huge cultural shift after Bennett's death must be cited as well. Much of what is plaguing the teams has its origins in the removal of Bennett's top-down leadership style and Rogers's failure to replace it with an alternative cultural model. Teams must now find skills they've never had to develop, and no one, not even their leadership, seems aware of this. Although culture doesn't seem to be quite as strong a cause as Rogers's leadership or team dysfunction, it deserves mention (exhibit 6-E).

Cause 5: Corporate

As you considered the evidence about Rogers's performance, you realized that he wasn't personally responsible for all of the leadership failures. In light of that, you add another cause: the senior managers of the corporation are culpable too. They promoted Rogers, although he had little

EXHIBIT 6-D

What are the causes of EPD's performance problem?

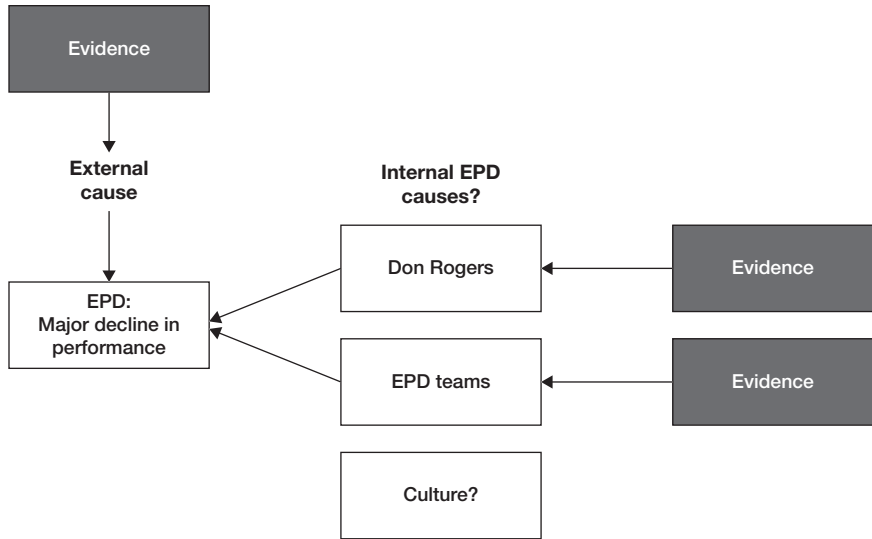


EXHIBIT 6-E

What are the causes of EPD's performance problem?

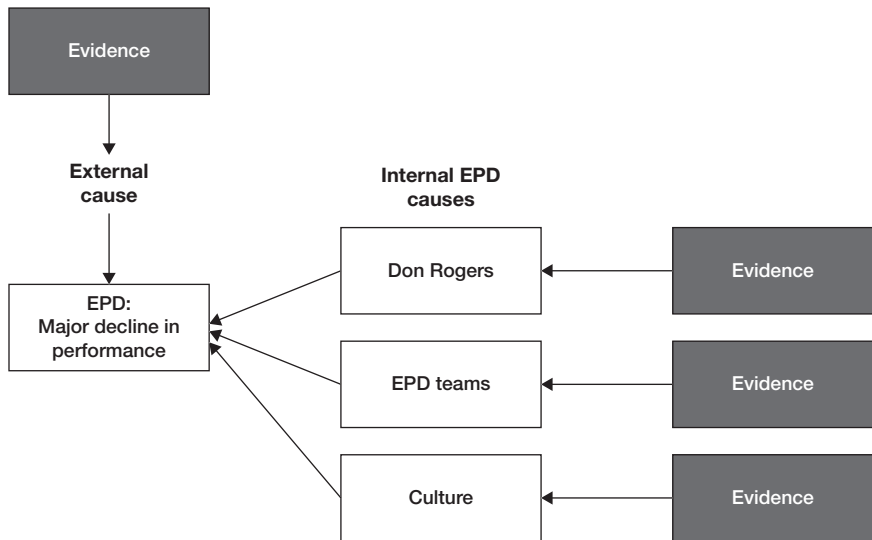
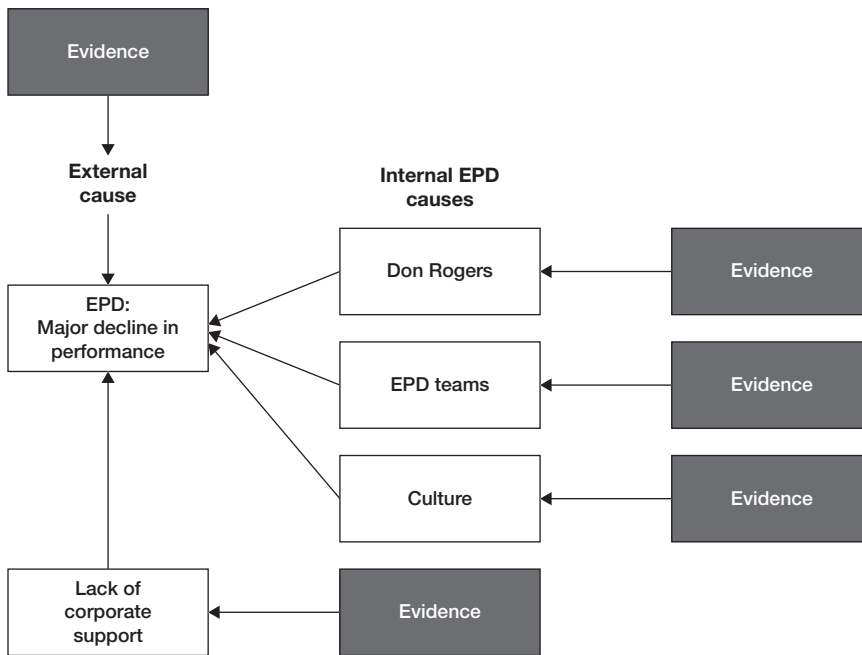


EXHIBIT 6-F

What are the causes of EPD's performance problem?



management experience, and didn't give him support or training to make the transition. They recommended he move EPD headquarters to corporate headquarters, detaching Rogers from the people he was supposed to be managing and leading. It seems fair to say that corporate unintentionally set him up to fail. To be fair to Rogers, lack of corporate support should be included as a cause (exhibit 6-F).

8. What actions does your position support or require?

An action plan in a problem-diagnosis scenario is focused on fixing the problem. You should first think about the goals you want to achieve with an action plan. Keeping the goals simple is highly recommended to keep the action plan from becoming complicated and disjointed. Possible goals for an EPD action plan are:

Rogers needs to rebuild the EPD's competitiveness, reduce unproductive conflict, and build a new culture.

SHORT TERM

- Rogers should take a deep breath, step back, and assess the precarious situation the division is in. He should seek out leadership training or a coach to help him improve his skills.
- He should visit every EPD department and deliver a message: the division is headed in the wrong direction, market conditions are difficult, and everyone's job is at stake. The only way to succeed is to work together. He should ask employees and managers for ideas to improve performance. He should also try to shore up morale in marketing.
- Immediately start working with the members of product development to redesign the product development process, stressing the urgency of making timely decisions; getting buy-in from marketing, sales, and manufacturing; and moving projects to completion. He should identify new products that he thinks can achieve short-term wins, set goals for the number of new products per year, and tie at least part of the compensation of the group to the new goals. Alternatively, he could set up a bonus plan to reward participants.
- If product development continues to be stalemated, intervene and reduce the membership to people he thinks he can rely on or bring in new people.
- Rogers should cultivate relationships with key managers and employees in the division and ask them to participate in a group to create a vision for the EPD and communicate it to everyone in the organization, visiting every EPD facility to promote it and request feedback.
- He should persuade corporate to back off on aggressive growth rates and profit targets. They are unrealistic, and even corporate has acknowledged that. Engage corporate in a discussion about a new strategy for EPD reflecting the changed business conditions.
- He should restart the organizational development program.

LONG TERM

- Rogers should work with corporate to overhaul the EPD incentive system. The new system should reward collaboration and the achievement of divisional financial targets, not narrow departmental targets.

- He should move EPD headquarters, marketing, and sales back to one of the division's facilities.
- Rogers should implement the findings of the organizational development program.
- He should form cross-functional groups to monitor the working relationships between departmental teams, foster cooperation, and mediate conflicts.
- Rogers should set up an ongoing leadership training and mentoring program for the younger managers in the division.

PART II

DISCUSSING CASES

CHAPTER 7

HOW TO PREPARE AND DISCUSS CASES

Class discussion is the fulcrum of case learning. You and your classmates come together to explore a case with the help of the instructor. The instructor's role isn't to tell you what the case means and give you the right answer. (Although some instructors may tell you what they think the right response to a case is.) Instead, the instructor asks questions about facts and the inferences you make from them, probes your responses, writes pertinent comments on the board, maintains the flow of the discussion, and helps to direct and shape it in ways that illuminate the main issues of the case. Case discussion is a rehearsal for your career: thinking on your feet, discussing issues with peers and superiors, persuading them to accept your point of view, and following through with actions that flow from your viewpoint.

The lecture method gives the instructor near total control of the classroom. The only unpredictable moments in a lecture are when students ask questions—if they are allowed to. In a case method classroom, instructors give up a great deal of control to you—the students. In turn, though, you have to take much more responsibility for your own learning than you do in a lecture classroom.

This chapter delves into case discussion from the student point of view.

A METAPHOR FOR THE CASE METHOD

Your role in a case discussion is to share your thinking about a case in response to a professor's questions or another student's comments. Case discussion isn't a free-for-all in which everyone says what they think about a case. Imagine it as akin to an orchestra performance. The conductor (the professor) directs and coordinates the musicians but doesn't play a note. The orchestra members (the students) each play as a contribution to the performance of the whole.

The major difference between an orchestra performance and a case discussion is that the musicians aren't playing from a score. With direction from the conductor, they're improvising the score based on the notes of the composer (the case).

Like orchestras or any musical group, the quality of case discussions can vary. With so many variables, that's a given. The conductor and the orchestra must have an understanding that they will all study the composer's notes seriously before a performance. Otherwise, the performance will disappoint everyone. When everyone does the work to prepare, the players, their different instruments, and the unique sounds they make can blend together into rich, multifaceted music. As in an orchestra, diverse voices enrich case discussion by opening up a case and exposing meanings and perspectives that could not possibly emerge from a single player.

THE SHAPE OF A CASE DISCUSSION

If you've never been part of a case discussion, here's a glimpse of what one is like.

The instructor may provide some background or context for the case or she may start asking questions immediately. She might ask for volunteers or call on a specific student to answer. Case method professors generally have a class plan divided into discussion blocks, each one concerned with a specific issue. A block consists of specific questions that explore an issue. Many instructors initially ask students questions that build a base of facts about the case. From that base, the discussion can go in many directions. Commonly, the professor will ask questions about conclusions that can be drawn from the facts. Students often see the facts differently, leading to different conclusions and discussion of the differences.

For example, an operations case begins with the main character thinking about an innovative distribution system his company has implemented. He's convinced that it will allow his company to manufacture products more efficiently. However, the other parts of the supply chain are resisting the innovation. The instructor might first ask the class for the facts about the supply chain, how the prior system operated, how the new system is supposed to work, and its benefits for the manufacturer. The professor might then shift to questions that require the students to draw conclusions from the facts: What are the causes of resistance to the innovation? Can the system be fixed or is it fundamentally flawed?

Alternatively, the professor might start with big-picture questions such as, Why is the new system failing? Should the main character give up

trying to make it work? The ensuing discussion might work backward from students' answers to the big-picture questions to the facts and inferences that support their opinions.

The educational purpose of different discussion patterns is the same: to challenge you to understand the factual evidence, to justify your opinions with evidence, and to express your thinking coherently and persuasively.

RESPONSIBILITIES OF A CASE METHOD STUDENT

When contributing to a case discussion, you have to accept the following responsibilities.

Be Prepared

Good class participation starts with good preparation. In the case method, it really does matter that you do your homework. There is no way to catch up or benefit from the learning opportunities of the case classroom after the class is over. You not only should read the case but also should take time to think about it.

In part V, you'll find three Study Guides corresponding to the three types of case scenarios we've identified. They're intended to help you organize your note taking and thinking about a case. (To understand how to use the guides, you need to read chapters 3, 4, 5, and 6.) In Part V, there are instructions for using the guides, as well as information on how to download blank versions of them. They have two advantages: they're organized according to case scenarios, and they will make your note taking much more focused and efficient.

Your professor may organize study groups to discuss cases before class. If she doesn't, organize one of your own. Study groups have many of the same advantages as a full class, but they can also be a venue for testing your thinking that feels less risky. If you find it hard to arrange physical meetings, use technology for virtual meetings.

Take Part in the Discussion

Case discussion depends on two variables: your preparation and your willingness to raise your hand. Good preparation should give you confidence that you're ready to participate.

Raise your hand when you have something relevant to say. Sharing your insights about the case is the foundation for good class participation.

In addition, you should bring your real-world experience to bear on the case. No one in the class is going to have experience identical to yours, despite similarities to you such as age, ethnicity, and country of origin. You and your classmates have a brief time together. Be generous and add your unique perspective to case discussion.

Respond to the question asked, not the question you might want to answer. Answers to questions that were not asked disrupt the flow of a class. Don't get into the habit of rehearsing an answer in your head when a question is asked. By the time you raise your hand, the professor will likely have called on someone else. Trust that you'll be able to compose your response on the fly.

Remember that your responsibility to your peers and the instructor is to move the discussion in a productive direction. Students take turns building a foundation for understanding a case. No one person builds that foundation alone. You and your peers lay it down brick by brick.

Students can slide into roles in a discussion class, sometimes without realizing it. To keep the discussion honest, a student might appoint himself to the role of contrarian, always opposing the consensus developing in the discussion. The opposite role is the conciliator, an individual who tries to bridge differences of opinion and avoid conflict. A student raises his hand in response to virtually every question the professor asks, which may discourage other students from raising their hands. Another common role is the student who conveys intense concentration through body language but rarely raises her hand to speak. Be aware of your tendencies in a discussion class. Try to avoid a single role in the classroom. You don't have to speak in every class, but you should strive to be a regular participant.

Finally, don't assume that you learn a lot by staying silent and taking copious notes. You learn by engaging your thought process with those of the other people in the room and expressing the specifics of your agreement, your disagreement, or your qualifications to what others have said. Without skin in the game, you won't learn from the game.

Extend Respect and Expect It in Return

Google found that the single most important characteristic of its highest-functioning teams was psychological safety. Members of these teams felt that the team wanted to hear their ideas and were confident that the other members would take their ideas seriously. In other words, these teams had managed to make respect for each other a fundamental norm.

That is also true of high-functioning case classrooms. Respect flows from the following:

- You take seriously what your peers say.
- When you disagree with your peers or the instructor, you do so constructively. Your interest is in understanding an issue better, not proving that you are smarter than everyone else.
- When someone disagrees with you, you regard it not as a personal threat, but as an opportunity to examine your thinking from another point of view.
- You don't try to dominate the discussion.
- You listen attentively to other students and the instructor.

You deserve the same respect you extend to others. Let your peers know that you appreciate their respect for you.

Accept Conflict as a Natural Part of Collaboration

An idealized picture of case discussion has students progressively building on each other's views. Everyone chips in with a comment that adds to the emerging view of an issue.

However, collaboration doesn't imply that everyone agrees about everything. Conflict is essential to collaboration because it opens up possibilities that wouldn't exist without it. It needs to be managed so that the conflict is constructive rather than destructive and personal. Assuming it is, a student who disagrees with the evolving view of a subject creates a learning opportunity for everyone.

Conflict itself isn't the crucial issue; it's what people do with conflict. They can defend their point of view unconditionally. Or they can talk about the substance of the conflict. In case discussion, it isn't always necessary to resolve the differences of opinion. The important objective is that everyone in the room understands the basis for the different points of view.

I hope that you never experience the effects of a peer who violates the norms of trust in the classroom. Speaking from experience, I can say that despite being vigilant, professors sometimes miss unconstructive behavior. For example, a student might say something offensive to another student that the professor doesn't hear or while the professor is looking at another part of the room. An incident can occur outside the classroom that affects

what happens inside it. Let the professor know. She can't fix something if she doesn't know there's a problem.

I want to emphasize that these types of incidents are very rare in my experience. The key point is that if you encounter disrespect in a classroom, you have many options for remedying the situation, but you need to have the courage to reach out to individuals who can help you.

RELUCTANCE TO PARTICIPATE

Ideally, everyone in a class is eager to discuss a case. In reality, students can be reluctant to contribute their thinking. Here are some of the most common reasons.

I didn't prepare the case

Every case teacher worries about student preparation. The case method is uniquely vulnerable to lack of student preparation. If enough students come to class unprepared, very little learning is going to take place.

You may mistakenly think of preparation as something you're doing for the instructor. In fact, you're preparing a case for yourself and your future. That may seem like a cliché, but it's true. Learning happens in small steps, not huge leaps. When you don't prepare, you lose the benefit of another small step. You're also letting down your classmates by contributing nothing to their effort to understand a case. A half hour of focused analysis of a case can prepare you to be a contributor to the discussion of it. Most of us have at least thirty minutes of slack time in our daily schedules.

I'm afraid of speaking

If you're used to lectures, you may feel unprepared to say what you think in front of peers and the instructor. Or you may dislike speaking in front of others in any setting. Year after year, people in the United States say their number-one fear is public speaking. If you dislike public speaking, you are not alone.

It takes courage to speak while everyone's attention is focused on you. To reduce the risk you feel, it can be helpful to ask yourself what is the worst thing that could happen if your comment is off the mark. Does every other student always make high-quality comments? Does the instructor always ask clear questions that move the discussion in a productive direction? The realistic answer to both questions is no. Understanding that nothing terrible is going to happen to you can bring down the level of felt risk.

Another risk reducer is to be alert for questions that you feel most confident answering, for example, questions about facts. If you've prepared the case, you are likely to remember many key facts about it.

Some students convince themselves that providing a fact to the discussion isn't important and they should answer only big-picture questions. If the instructor asks a question—any question—it must have some importance. Case teachers will tell you that they are grateful for students who have a command of the basic facts of a case and are willing to share them. A meaningful case discussion can't take place without a firm understanding of the facts.

The most critical time for establishing yourself in a case classroom is early in the course. Delaying your participation usually drives up the urgency you feel and the perceived risk of making a comment. Set a goal of participating in the first or second case discussion (assuming you have more than one or two cases in the course). If you're feeling particularly anxious, answer a question that requires a factual response. Instructors often ask fact questions early in a case discussion. Once you've spoken, it will be much easier to do so a second time.

I'm the only one who's uncomfortable

You may believe that other students feel perfectly at ease and confident in the classroom and you're the only one who doesn't. The simple answer to this assumption is that it's wrong. Many students will have the same feelings you do.

I need to say brilliant things

You don't need brilliant comments to make excellent contributions to a discussion. The trap set by those unrealistic expectations of yourself is that they prevent you from speaking. Insight can come from individuals, but it's more likely to develop from the hard work of groups.

People will think I'm stupid when I make a comment

All of us experience self-doubt. If you're afraid of being perceived as stupid, ask a trusted friend in the class to give you feedback on your discussion participation. Tell the friend to be frank. You're very likely to hear that your comments are intelligent and on the same level of quality as other students' points or to receive suggestions on how to improve the impact of your comments.

I'm afraid someone will disagree with me and show everyone that I'm wrong

In a case classroom, there is always the chance that one of your peers will not agree with something you say. Assuming they have a substantive alternative view and the discussion is managed well, the person is actually doing you a favor. He's giving you a chance to think about and learn from a different perspective. You might realize that the alternative is a better way of looking at an issue. Or you might show him that your point of view is sounder.

OTHER POSSIBLE BARRIERS TO PARTICIPATION

There are other more specific factors that can cause you to hesitate to participate in a case discussion. They include introversion, language, culture, gender, race, and class.

Introversion

Case discussion is public, spontaneous, and often lively. That can be an uneasy combination if you're an introvert. The lecture method is well suited for introverts because students can take in and process information and formulate a judgment or response in a more structured medium such as an essay or a formal exam. The case method, which is driven by student participation, seems to be the opposite. But the method doesn't require that introverts become extroverts. It only asks that they share their thinking regularly. Introverts can maintain the boundaries they're comfortable with and still make their voices heard.

Language

Undergraduate and graduate classrooms worldwide have an increasing number of international students. That is a valuable development because we live in a global world and people from other places provide other (or additional) dimensions of learning. Of course, we can experience language as a barrier. Let's assume that you have a reasonable level of fluency in the language of instruction. You might still hesitate to speak because you think you aren't as articulate as native speakers or that your accent makes you hard to understand. You don't feel you are as nimble in a free-flowing discussion as a native speaker. You fear tripping over words,

mispronouncing them, and thus making it hard for your classmates to understand you. Worse, you may fear someone will laugh at you.

If you have any of these worries, ask yourself whether people you talk to outside of class understand you. If they do, people in the classroom will too. Also, you don't need an expansive vocabulary to express sophisticated thinking. Simple language can be just as powerful as complex language, and it is usually much easier to understand. As far as accents are concerned, we all have one. Speaking a foreign language with an accent isn't shameful; it's an accomplishment that you know a second (or third or fourth) language. Again, the issue is whether others can understand you.

Not participating denies you chances to expand your working vocabulary and improve your fluency of expression. But what must also be emphasized is that both the professor and your fellow students will be focused on taking in the content of your idea or comment and where it takes the discussion.

Don't let your worries about accent or fluency prevent you from sharing the unique perspective you bring to the class. Remember that native speakers of the language of instruction have accents too. There is no perfect standard of a spoken language.

Culture

Cultural issues intersect the case method in so many ways that it's difficult to generalize. The case method was defined and refined in the United States. Not surprisingly, it has Western cultural values embedded in it. The method benefits from participants' readiness to express their opinions and view differences of opinion as natural and valuable. These aren't values that every culture shares.

Although the case method has a cultural bias, it isn't defined by gladiatorial combat rewarding the loudest and most aggressive participants. The beauty of case discussion is that there are many productive roles that individuals can take. Students can fill discussion roles that are compatible with their cultural background. A student who comes from a culture that highly values public consensus can feel very comfortable building off the comments of other students and offering ways to reconcile conflicting judgments, while someone from a more individualistic culture may feel freer to disagree with her peers.

A student doesn't have to conform to a single cultural profile to add value. At the same time, it's valuable for students to experiment with expanding their cultural "comfort zone" in the classroom. We do live in a global world, and the more cultural sensitivity and flexibility we have,

the better. For instance, students who relish differences and debate might try out the role of conciliator and supporter.

Gender, Race, and Class

Every student in a classroom should feel equally entitled to speak, regardless of gender, race, or class. Lack of respect toward others based on personal characteristics is absolutely toxic to case discussion. There is no quicker way to stifle open and creative discussion. These and similar events can silence the target of the remarks and others who fear being targeted.

The instructor has a major role in ensuring that this norm is observed in the classroom, as do students. If you witness discriminatory behavior, you should let the professor know. Most colleges and universities have strong policies against discrimination and well-defined processes for reporting, investigating, and mitigating it.

REDUCING RISK—THE WRONG WAY

Every student in a case classroom shares the risk of exposure to the judgments of their peers and the professor. There are constructive and unconstructive ways to deal with this reality. Here are some unconstructive ways.

Canned Comments

You can stockpile points about a case before class. You prepare a list of statements about various facets of the case you expect to come up in class. The broad coverage is appealing because it seems to put you in a position to say something regardless of how the discussion develops.

Walking into the classroom, you feel a new confidence. You believe you are now equipped to make a quality contribution. However, in the next few classes, the discussion takes paths you didn't anticipate; despite the broad coverage of your prepared points, the discussion doesn't match up with anything on your list. Then, finally, a class does take shape the way you thought it would. You scan the points for the case as the conversation moves along. Unfortunately, other students preempt them or your points don't quite fit into the discussion, and you're hesitant to adapt points extemporaneously—the very situation you're trying to avoid. Frustrated as time slips away, you feel you must present a point even if it isn't relevant to the current topic. After all, you're certain you have valuable insights into the case and therefore expect the group will change the course

of the discussion to pursue what you bring up. So, you share one of your points when called on. You say it well, but it still sounds like a rehearsed comment.

An MBA student summed up this scenario in a few words: “A great comment at the wrong time is the worst thing!”¹ An excellent but ill-timed comment impedes the discussion and will probably be ignored. Everyone loses; the value of the comment is lost, and the timing of the comment reflects poorly on the speaker.

Speeches

A related risk-reduction technique is to prepare a speech. You choose a key issue in the case and outline or write out an extended comment. With a script to work from, you won't forget any of the facts or your reasoning. You also won't have to search for words to express yourself because you have already found them. Again, the challenge is to find the right moment, and again the reality is that the moment hardly ever arrives. That's fortunate, too, because no matter how hard you try to disguise it, a speech will sound like a speech.

The worst effect of canned comments is the one it has on you. Your engagement with the class is a constant attempt to fit the conversation into your thinking, and that removes you from class discussion. In the end, your own learning suffers the most.

Delay and Assess

Another risk-reduction technique seems modest and prudent: delaying entry into the discussion until you feel at ease with the cases, the give-and-take of discussion, your classmates, and the professor. This break-in period doesn't mean you don't work hard on the cases. You study them carefully and pay attention to what class members are saying. You may find that you're anticipating some of the comments and could add to them.

However, the longer you remain silent, the harder it is to join the conversation. The cumulative effects of nonparticipation can be subtle. A regular participant builds a backlog of collaborative effort and credibility with the group. Both are helpful in creating good will toward the individual, which lowers the felt risk of participation. Good will also acts as a cushion for the inevitable errant comments everyone makes.

With no participation track record, a student becomes essentially invisible to classmates and the professor and lacks a reserve of good will in the group. It's also possible that some classmates may feel a touch of

resentment that they are taking risks while the silent student avoids them. If a student's lack of participation goes on for a long time, he usually comes to believe that only a very high-quality comment will establish him as a full participant. That lofty standard eliminates the option of an easy entry into the discussion, such as providing a case fact. If the student doesn't find a way of breaking free from his self-imposed standard, a spiral effect can develop: the longer the silence or sporadic participation continues, the higher the ante, and the more difficult it becomes to speak, which simply pushes the ante higher still.

REDUCING RISK—THE RIGHT WAY

Some sense of risk is unavoidable with the case method. More than two thousand years ago, Socrates was making Greek students uncomfortable with pointed questions and relentless logic. Risk isn't purely negative, however. It's a motivator to do the hard work the case method requires.

However, don't exaggerate the risk. That leads straight to fear, and fear makes you a poor listener and robs you of the confidence to speak. Part of that fear involves the desire to avoid poor-quality comments. In fact, silence is more damaging than comments that misfire. As Maureen Walker, a former administrator at Harvard Business School, notes, "Silence is saying something."²

Put Limits on Your Preparation

Careful preparation is the foundation for effective class participation, but you shouldn't overdo it. The last part of that statement may seem odd. In an academic setting, is it possible to study too much? As far as case analysis is concerned, the answer is emphatically yes.

Don't fall into the trap of believing that the more hours you put into a case, the better prepared you will be. You can always justify long hours studying a case by telling yourself that knowledge is proportionate to time. Maureen Walker disputes that justification. She says those long hours will just make you sleepy, not more knowledgeable. Rastislav "Rasto" Kulich, an MBA graduate, feels that balancing preparation and rest is one of the most important contributors to good classroom participation.

Setting a limit on case preparation has several benefits: it puts a healthy pressure on you to use the time well; it contributes to keeping your life in balance and staying fresh; and it encourages you to pay attention to how you analyze a case. Much of this book is dedicated to informing your

decisions about studying cases. One of the decisions is a time limit. If you have two or more cases to prepare, two and a half hours per case is a good place to start; aim to gradually reduce that to two hours per case. Even for one case, two hours seems to be the point of diminishing returns.

Speak Up Early

The most valuable advice about case discussion is this: participate as early as possible, ideally in the first class. Speaking up early not only reduces the nervousness of being in the spotlight, but also assists you in setting realistic expectations for yourself. An MBA student gave this advice:

Be brave! It is very hard in the first class to spell out the brilliant solution of a case or even make a comment with a high level of quality. It is highly likely that in the very beginning, your comments will just be OK or worse. But this is only another barrier that you have to overcome to enhance the quality of your comments. Never stop talking in class because in the last class you said something you perceived to be silly.

The student is saying that class participation itself is a learning process. No one is born to be an effective case discussion participant. Thus, another reason for becoming involved early is that to learn how to be a good participant, you must participate.

Remember: You're Not on the Stage Long

How long does a student speak in a case discussion class? Speaking for a total of one minute is an unusually long time unless the class is very small. In other words, your exposure is brief (although it may seem like an eternity to you). Your comment is one among many. Despite your concerns, your true risk is small.

Learn to Listen

When asked to give advice about case discussion, MBA students repeatedly mention the role of listening. You spend far more time listening than speaking in a case discussion. One student said about this underrated skill:

Always listen carefully to the other students' comments and the professor's questions. It's not only important to get the essence of different perspectives, but also to help you follow the flow of the case discussion.

A business school graduate described how he listened in case classes:

It is a great exercise to listen to comments in class and decide whether you agree or not with what people are saying. If you have a good argument to support your agreement or disagreement, it is time to raise your hand and talk!

Listening is participation, as long as it isn't the only thing you do. It's a complex skill because you're not passively taking in information and storing it. The information stimulates you to think about what is being said and triggers your own thinking and sometimes motivates you to say something. A quality comment isn't possible if you haven't been listening with care. A good comment fits the context of the ongoing conversation at the moment it is made. A few moments later, the comment will be redundant.

The average adult can pay full attention to something for about thirty seconds. It isn't humanly possible to listen with complete concentration for sixty or eighty minutes. Inevitably, something in the room is going to distract or you will drift into thoughts having nothing to do with the class. Listening to a discussion really means constantly reengaging with the speaking going on around you. Anxiety, by the way, is an internal distraction that compromises listening: anxious students find it hard to do it because there is too much going on in their heads.

What all of this points to is that you have to learn how to listen to a case discussion. Learning to listen well will prove to be one of the most valuable skills you will come away with.

Recognize the Social Factor

Classmates who get to know each other outside the classroom can change the atmosphere inside it. A group of strangers competing for grades can become a group of acquaintances and friends who recognize that they're competing but also understand they're collaborating for the benefit of everyone who takes part. Students surrounded by classmates who clearly respect them will probably be at least a little more willing to take risks in discussions. The listeners are probably going to be more empathetic toward the speaker, more willing to help out if they can when a classmate stumbles while trying to make a point and more understanding when the classmate's contribution doesn't help the discussion. The often subtle but damaging influence of stereotypes about gender, personal appearance, and many other characteristics can be defeated when people get to know each other. A classroom friend can encourage a reticent student to speak up or to take bigger risks with his comments.

Remember How to Laugh

Universities and professional schools can be very serious places. Students new to them, though excited to be there, can also be anxious about how they will perform. Here is some wise advice from a graduate of a case method program:

The ability to lighten up is very important. Many students, especially internationals, are very intense and tense and take themselves too seriously. That makes them stiff in delivery and rigid in responding to audience reaction or comments. Humor, especially the self-deprecating kind, is very much appreciated and often needed. Students' ability to spice up the discussion or laugh at themselves will help them improve audience attention and increase acceptance of their comments.

Should You Take Notes?

Students who have listened to countless lectures develop note-taking habits. They become skilled at making a written record of what a professor has said, possibly adding thoughts of their own or questions. They naturally bring these habits to a case classroom. But taking notes, especially detailed ones, puts you a step behind the discussion. You're still writing down what the last speaker said while the discussion shifts to someone else.

A solution to this problem is to take spare notes in class and set aside a few minutes after class to write down the two or three major take-aways. Because case discussions are dynamic and unpredictable, those few moments after class are often a better vantage point for learning than moment to moment in the class.

Be Patient with Yourself

Set an objective of contributing a comment in the first class of every case course. Go into the first class to listen to what people are saying, not to wait your turn. When you listen actively, responses come to mind organically—if you let them. When they do, don't evaluate whether they are good enough. Just raise your hand.

Along with the willingness to take the plunge, you need patience. Don't regard your comments as a vehicle to prove your brilliance. As you learn the art of case discussion, take a long-term view. You'll have many opportunities to speak so the risk of one comment is low.

A Harvard MBA urges you not to be “afraid to make the obvious comments or ask a stupid question.” He continues:

Discussion is all about confidence. If you are a shy person and don't speak up front in the semester, it will become harder and harder to speak. You will start pressuring yourself to come up with great comments and won't speak until you have one. Things just get worse. Ask the stupid question, make the obvious comment . . . The stupid question is usually everyone's question. Once you start talking, you will feel comfortable, and your mind will become clearer, and you will come up with better and better comments.

NOTES

1. All student quotes from email responses to the author, 2006.
2. Maureen Walker, “International Orientation, Class of 2006,” slide presentation to entering MBA students, Harvard Business School, July 2004.

PART III

WRITING ABOUT CASES

CHAPTER 8

HOW TO WRITE CASE-BASED ESSAYS

Students in courses that use the case method are frequently asked to write about a case for an assignment or an examination. When you write about a case, you need to be concerned about four things:

- The question you've been asked
- How to read and analyze a case
- How to organize your writing about a case
- How to write clearly, concisely, and correctly

THE QUESTION YOU'VE BEEN ASKED

Typically, professors' assignments or exam questions ask you to take a position on an issue in the case. You could be asked a question such as the following about the case "General Motors: Packard Electric Division" (page 173):

What should David Schramm do?

The question is deceptively simple. You might read the word "do" to mean the actions he should take and therefore write an essay that briefly states the decision you think Schramm should make and then explains the actions that result from that decision. But you'd be missing something important if you did.

The question asks you to state an opinion about which decision Schramm should make. In the case, Schramm has three options, and none is—at first glance—obviously better than the others. Your writing task is to persuade the professor that the option you choose is better than the other two. Persuasion means using language to gain the agreement of the audience to think, feel, or act in the way you want. The goal of an assignment or exam is to persuade the reader, that is, the professor, that your

response is reasonable because it's supported by compelling evidence from the case. There are a number of ways to persuade an audience, and one of them is reasoning. The surest way to persuade a professor is using reasoning, and the most powerful form of reasoning in writing is an argument. You'll learn more about written arguments later in the chapter.

Now you can understand why the question "What should David Schramm do?" is not just about action. Rather, it requires you to write an argument proving that the decision option you favor is the best among the three. Any question that asks you to state a conclusion or position about a case requires more than a few sentences describing your opinion. The reader expects you to answer a crucial question about your position: Why? Why do you think it's the best position?

There's one other point about case-based exams or assignment questions. When faced with a question like the one about David Schramm, students can be unsure about how to answer it. Anxious to get started, they write something they are sure about: they summarize case facts. This is an understandable response to uncertainty, but it doesn't answer the question. If you still think your essay should begin with an extended overview of the case facts, consider this: the professor has read the case. She's not interested in seeing proof in the essay that you've read it (unless, of course, the question she's given explicitly asks you to summarize the case).

But case facts are important: they are the source of evidence you need to prove your position.

HOW TO READ AND ANALYZE A CASE

Once you understand the question you have to answer, you're ready to read and analyze the case to develop your response.

Part I of this book describes and demonstrates the skills you need for case analysis. The skills apply to both preparing for a case discussion and writing about a case. Part I teaches you how to identify the case core scenario, organize your analysis of it, and make sound conclusions. If you haven't read part I, I strongly suggest that you at least skim through the chapters before you read this part of the book. Why should you go to the trouble?

Reading and analyzing a case in a way that easily translates to writing makes you more efficient at case analysis and results in a better written product. Say, for instance, that an exam question asks you why a company's competitive advantage has been eroding over the last ten years. The question implies a problem–diagnosis scenario: identifying the causes that are eroding the company's competitiveness. Problem diagnosis is one of

the three case scenarios used in part I to show you how to analyze a case effectively. Organizing your reading and analysis of the case to determine the causes facilitates writing an essay about them. Another way to say this is that when the organization of your analysis and your essay is the same, you can make a faster and easier transition from reading to writing.

HOW TO ORGANIZE YOUR WRITING ABOUT A CASE

A case essay can be organized to answer three simple questions: What? Why? How?

- *What?* Your position statement that responds to the question.
- *Why?* Your argument that supports your position statement.
- *How?* Your action plan detailing what needs to be done based on your position statement and argument.

Your Position Statement: What?

A sharply focused position statement at the beginning of an essay answers the reader's first question: What is your answer? Without one, the essay has no purpose or direction as far as the reader is concerned. One of the most common failings of case exams is that writers don't offer the reader a clear-cut position statement. A variant is to say that there are a number of possible positions but not commit to any. To the reader, an essay that begins this way makes the writer look evasive and afraid to take a position, which is probably an accurate impression most of the time. Tell the reader what you think because that's what the reader wants to know.

Notice that I said your position statement should be at the beginning of the essay. Stating your position there has several advantages. First, the reader expects you to answer the question you have been asked. Why make the reader wait for it? Second, critical readers evaluate an argument as they read it. Readers can't assess an argument until they know what it's trying to prove. If your conclusion appears at the end of the essay, they must go back to the beginning and compare the proof to the position. Their reading will be more efficient if they know the position before the proof.

Finally, and probably most important, a position statement at the beginning of an essay provides a statement of intention for both the reader and you, the writer. That statement is the focal point of the rest of the essay. Your organizational choices for the essay have been narrowed

considerably: the essay structure needs to deliver the proof of the position statement to the reader. And that is the single purpose of the essay.

The paragraph below is from an essay on the case “Allentown Materials Corporation: The Electronic Products Division (Abridged).” The writer was responding to this prompt, “Explain the recent decline of the Electronic Products Division.”

Don Rogers faces an array of difficulties. The Electronic Products Division’s performance is currently declining and their reputation for delivery and service has been slipping. Employees have low morale, don’t trust those from other groups, and are participants in unending conflict. Many of these problems can be traced to external causes, Rogers’s poor leadership, the dysfunction of EPD teams, a clash of cultures, and the lack of corporate support.

The paragraph concisely states a position on the question. The final sentence lists reasons for the problems cited in the paragraph and creates an expectation in the reader that each of those reasons is going to be described and proved. From reading just four sentences, the reader knows both the author’s position (the “what”), a summary of what led her to this conclusion (the “why”), and the overall organization of the essay.

In some cultures, opening an essay with a direct statement of opinion—particularly when that opinion is directed at an older and more knowledgeable or powerful person—could be perceived as arrogant and aggressive. Absent any cultural or status norms for deferring statements of opinion, the vast majority of readers want writers to tell them what they think at the beginning of an essay.

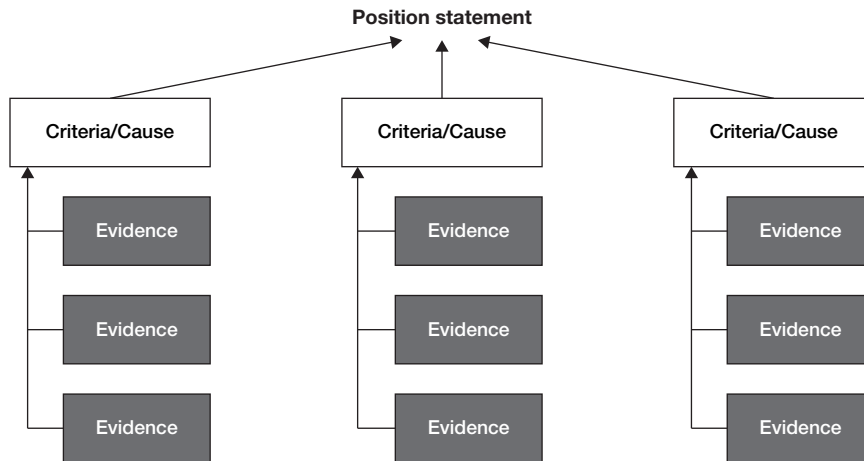
Your Argument: Why?

The term “argument” in this book means a way of presenting your thinking to persuade a reader that your position is likely to be true. The qualification “likely to be true” may be pedantic, but it’s intended to remind us that proof of unconditional truth is very difficult. An example is the paragraph above about Don Rogers and the EPD. Proving the causes cited in the paragraph to a scientific certainty would be next to impossible. But the “likely to be true” standard can be satisfied by a reasonable amount of high-value evidence.

An argument can be a few sentences intended to prove something very specific. “Don Rogers was unprepared for the leadership of a large organization” is a position that needs a few points to show that it’s likely to be true: he had no general management experience, apparently no leadership training, no business education, and no coaching.

EXHIBIT 8-A

Structure of an argument



The questions you're asked about cases usually require more extensive responses that can't be proven in a few sentences. It often takes multiple paragraphs to do it. Each reason provided in the Don Rogers paragraph—the stresses of rapid change in the external environment, Rogers's poor leadership and decision making, the dysfunction of key groups in the division, a clash of cultures, and no corporate support—requires separate proof. So, the overall argument of an essay written about the “Allentown” case would consist of multiple constituent arguments.

An argument consists of a conclusion or position statement, criteria or causes, and evidence. Each criteria or cause and the evidence related to it contributes to the proof of the position statement. To help you visualize an essay-length argument, see exhibit 8-A. The number of criteria/causes in the exhibit (three) is arbitrary, but be cautious about relying on one criterion or cause or many of them. Using one criterion to prove something complicated is rarely persuasive, and using many fragments complicates the argument to a degree that makes it difficult to understand.

In case-based essays, most of your sentences will provide evidence. Evidence comprises case facts, including numbers; calculations based on numbers in the case; opinions expressed by characters in the case; data extrapolated from exhibits; and inferences made from any or all of these. Evidence can also be categorized as quantitative and qualitative. When writing about a case, most professors want you to confine yourself to

evidence in the case, not from outside sources (unless your professor says otherwise).

Inference requires a brief explanation. Inferences aren't stated in the case. They are statements that follow logically from statements that *are* stated. The following is an example from the "Allentown" case:

Case fact: The high-margin government market for the Electronic Products Division's products is declining.

Case fact: The commercial market is extremely competitive.

Case fact: Commercial prices are declining.

Case fact: EPD costs are increasing.

Inference: The EPD is having more and more difficulty making money.

Students often find that the most difficult aspect of developing and writing arguments is using evidence. Gathering evidence as opposed to just accumulating facts requires that you know what you're looking for. To develop an argument, you need to have reasons to direct your selection of evidence. Say, for example, you're creating an argument for a position statement that a retailer, Smyth & Company, should not receive more financing from a manufacturer because it could be a long-term credit risk. One of your criteria is that you think the retailer's future liquidity does not look good and could jeopardize its ability to repay the manufacturer. You must give your reader evidence proving the criterion. Here is what that might look like:

Because of its liquidity situation, Smyth & Company could be a long-term credit risk. Admittedly it has a current ratio of 2.53, and the acid test shows that its current assets minus inventories can cover 1.26 times its current liabilities. Both are good signs that the company can meet its short-term liabilities, such as the accounts payable it owes us. Nevertheless, when we look at the accounts receivable, the collection period has worsened. In 1998, Smyth & Company took an average of 82 days to collect its accounts receivables versus an average of 62 days in 1996. At the same time, the days payable measure also increased from an average of 53 days in 1996 to 70 days in 1998. However, the accounts payable did not increase as much as the collection period. That puts pressure on the company's cash flow because the gap between the time Smyth & Company gets paid versus the time it needs to pay its bills increased from 9 days to 12.

In an essay, reasoning is carried out sentence by sentence. Illustrating this visually is difficult because each sentence has a role. To try to give you a sense of how the author uses evidence in the paragraph you just read, here is an annotated version of it. All of the calculations come from numbers in the case.

ANNOTATED VERSION:

Because of its liquidity situation, Smyth & Company could be a long-term credit risk. [← Statement of criterion] *Admittedly it has a current ratio of 2.53* [← Evidence: result of calculation], *and the acid test shows that its current assets minus inventories can cover 1.26 times its current liabilities.* [← Evidence: result of calculation] *This is a good sign that the company can cover its short-term liabilities, such as the accounts payable it owes us.* [← Inference from evidence] *Nevertheless, when we look at the accounts receivable, the collection period has worsened.* [← Inference from evidence] *In 1998, Smyth & Company took an average of 82 days to collect its accounts receivables* [← Evidence: result of calculation] *versus an average of 62 days in 1996.* [← Evidence: result of calculation] *At the same time, the days payable measure also increased from an average of 53 days in 1996 to 70 days in 1998.* [← Evidence: results of calculations] *However, the accounts payable did not increase as much as the collection period. That puts pressure on the company's cash flow* [← Inference from evidence] *because the gap between the time Smyth & Company gets paid versus the time it needs to pay its bills increased from 9 days to 12.* [← Evidence: result of calculation]

This paragraph relies heavily on quantitative evidence, as you would expect because the position statement is about a financial issue. It weaves together relevant calculations based on case numbers with inferences that tell the reader what the numbers mean and connect the evidence to the reason stated in the first sentence. The paragraph illustrates how numbers and calculations can be powerful pieces of evidence.

This brings us to an issue that often plagues students: how to work with numbers. In a written argument, some students will cite numbers from the case or give calculations but not explain what they mean. They assume that the professor, an expert, doesn't need to be told what they mean. In fact, telling the expert what they mean could insult his or her intelligence! The flaw in this assumption is that the professor wants you to show her that you know what the numbers mean. Here's an example using numbers from the paragraph on Smyth & Company. You say that

the retailer's future liquidity doesn't support offering more credit. You then say that the following numbers prove your point:

The Smyth & Company current ratio is 2.53 and the acid test is 1.26.

Accounts receivable in 1996 were 62 days and in 1998 were 82 days.

Accounts payable in 1996 were 53 days and in 1998 were 70 days.

The difference between accounts payable and accounts receivable in 1996 versus 1998 was +3 days.

If you state the numbers as a list with no explanation, your professor has no idea whether you understand how they support your position. (In the real world, your boss might question your knowledge and be unhappy that you've made him responsible for interpreting the numbers.) So, when you use numbers in an argument, make sure you tell your readers what they mean and how they're relevant to your position.

The other major category of evidence is qualitative. Let's say you're writing about why Don Rogers's poor leadership has been one of the causes of his division's disappointing performance. One of your arguments about his leadership is that he has made organizational changes that have hurt the division. That argument uses qualitative facts and inferences drawn from them. As in the previous example, the paragraphs are provided twice, with the second one annotated to indicate the statements of evidence and inferences.

Rogers made organizational changes that created obstacles to getting work done at the Electronic Products Division. He moved the division headquarters to corporate, which took him away from two of the functional groups and prevented him from building relationships with them. New product development has suffered because he physically scattered the people who have to work together. He moved the manager of product development to corporate headquarters but kept the product development groups at the plants.

In addition, he separated sales and marketing with no consideration for their complementary nature or buy-in from them. Sales is not simply selling, but is the source of market information. The marketing people can't collaborate effectively with sales, because they do not have the skills needed to do their job (they are all recent graduates or have one or two years of experience) or the market expertise. They desperately need the market knowledge of sales.

ANNOTATED VERSION:

Rogers made organizational changes that created obstacles to getting work done at the Electronic Products Division. [← Statement of cause] *He moved the division headquarters to corporate* [← Evidence: fact], *which took him away from two of the functional groups* [← Inference from evidence] *and prevented him from building relationships with them.* [← Inference from evidence] *New product development has suffered because he physically scattered the people who have to work together.* [← Inference from evidence] *He moved the manager of product development to corporate headquarters but kept the product development groups at the plants.* [← Evidence: fact]

In addition, he separated sales and marketing [← Evidence: fact] *with no consideration for their complementary nature or buy-in from them.* [← Inference from evidence] *Sales is not simply selling, but is the source of market information.* [← Evidence: fact] *The marketing people can't collaborate effectively with sales,* [← Inference from evidence] *because they do not have the skills needed to do their job (they are all recent graduates or have one or two years of experience) or the market expertise.* [← Evidence: fact] *They desperately need the market knowledge of sales.* [← Inference from evidence]

The paragraphs are worth rereading to understand how they accumulate evidence, point by point, that proves the statement made in the first sentence. The facts have been carefully selected from various parts of the case and inferences connect them to the statement they're proving.

Pay attention to one more feature of the examples. The first sentence of both the Smyth & Company and EPD paragraphs tells the reader the point the paragraph is going to prove. It also notifies the reader what the subsequent sentences have in common. It may seem mechanical and unimaginative to start each proof paragraph with the same type of sentence, but not if you consider how helpful they are to the reader.

Do you always need the same amount of evidence as in the examples? The answer depends on many variables, including the content of the case, the time you have available, your experience with the case content and analytical tools, and your reader's expectations. The best advice is to set a high standard of proof for yourself. Erring on the side of more evidence instead of less is the better alternative because professors are likely to reward you for that.

Because developing and writing paragraphs is so important to writing about cases, I want to include the outline of a short argument about a decision: whether to continue a free-trade policy or impose protectionism. See exhibit 8-B. It begins with a question you might be asked on a case

EXHIBIT 8-B

Outline of an argument

Question	Should the United States continue to support free trade or revert to protectionism?
Position statement	The United States should continue to support free trade.
Criteria	Trade increases the standard of living for lower-income Americans and eliminates few US jobs.
PROOF	
Criterion 1	Free trade increases the standard of living for lower-income Americans.
Evidence	<p>Studies show that free trade increases the purchasing power of people who are in the lower 10% of income by 62%.</p> <p>They also show that free trade increases the purchasing power of middle-income people by about 30%.</p> <p>Free trade primarily increases purchasing power because it lowers the cost of consumer goods that make up a large percentage of the purchases of poorer people. An example is clothing.</p>
Criterion 2	Free trade eliminates few US jobs.
Evidence	<p>About 80% of US employment is in the service industry, which is unaffected by international trade.</p> <p>In manufacturing, imports account for a relatively small percentage of job losses.</p> <p>By far, the largest cause of job losses in manufacturing is the substitution of technology for labor.</p>

exam or assignment about international trade. (On an actual exam or assignment, you would probably want more criteria and evidence to back them.) The exhibit shows the logical flow of the elements of an argument and the use of quantitative and qualitative evidence. Note that the organization is surprisingly simple. I hope the exhibit allows you to visualize that simplicity when you write your own arguments.

Your Action Plan: How?

An action plan has four elements:

- It states specific goals.
- It translates the key points of the argument into action.

- It consists of a series of specific action steps.
- It puts the action steps in chronological order.

States Specific Goals

The goals of an action plan briefly describe the desired result or end state of the plan. In other words, what will the situation look like when the action plan has been implemented? The general purpose of an action plan is to improve the situation that is the subject of the argument.

Here is an example of a goal statement:

The short-term objective is to develop a clear vision for the company and a plan for realizing that vision. In the medium and long terms, the goal is to restructure the organization and its culture to focus on the customer.

Translates Key Points of the Argument into Action

This is the element of action planning that seems hardest for students to grasp. Where do the steps in an action plan come from? Your argument lays out your position and the evidence supporting it. Your action plan goals describe a desired end state. Your action plan is the bridge between the two. It answers the question, How do you get from what you have argued to the situation you envision in your goals? What needs to be accomplished to truly achieve that state?

In the previous section, you read two paragraphs about the leadership of Don Rogers. Those paragraphs begin with the sentence, “Rogers made organizational changes that created obstacles to getting work done at the Electronic Products Division.” The paragraph argues that when Rogers changed the locations of managers and altered the organizational structure of EPD, he created obstacles to getting work done. What actions do you think would improve this situation? The simplest action is for Rogers to reverse some of the changes he’s made. One action plan step could say this:

Rogers should arrange a meeting with marketing and sales managers and ask them how they can best work together. He should propose bringing together marketing and the top management of sales in the same location and ask them to suggest other ways that will help sales and marketing exchange information and ideas.

All the actionable content in an argument should be included in the action plan. For instance, say that your evaluation argument reveals three areas in which a leader’s performance is deficient. The action plan should

include action steps to improve all three of those areas. An argument that asserts three major causes of a problem should have an action plan that deals with all three causes.

On the other hand, an action plan shouldn't have steps addressing issues that aren't included in the argument. An example is an action plan with steps aimed at a cause not included in the diagnosis argument. I'm calling your attention to this because it's an easy thing to do, especially while under the time pressure of writing an exam. Developing and writing the action plan may surface an idea that should be part of the argument. If you think the new idea is important, go back and add it to the argument. Otherwise, drop the steps that the argument doesn't justify.

Provides Specific Steps

An action plan consists of specific steps to meet the goals of the plan and incorporate the actionable content of the argument. Action steps written for exams and assignments need to be detailed enough to give the reader an understanding of the action and how it will help achieve the plan's goals. You want your steps to hit the sweet spot between vague generalization and excessive detail:

TOO VAGUE

Rogers should make sure marketing and sales work better together.

ABOUT RIGHT

Rogers should bring together marketing managers and the top management of sales in the same location and ask them to suggest ways sales and marketing can exchange information and ideas and generally improve their working relationship.

TOO MUCH DETAIL

Rogers should meet with Bill Lee, the new marketing manager, in the second week of the action plan and tell him that he's unhappy with the performance of marketing. He should ask Lee to prepare a memo that describes how his department can work more effectively with sales. He should also have a meeting around the same time with Jack Simon, the new sales manager, and ask him to prepare a memo that describes how sales can work more effectively with marketing. He should compare the two memos to see if they have any proposals that are similar

or the same and use them as a starting point for a meeting with both Lee and Simon.

Puts Steps in Chronological Order

An action plan is not just a collection of steps; it's a set of steps meant to be executed in a specific order in time. Urgent steps come first, less urgent ones come later, and some come much later. Professors are interested in how you prioritize steps in the timeline of the plan.

Action plans are easier to understand when they're divided into short term and long term:

- Short-term steps are urgent, easy, or necessary for longer-term steps.
- Long-term steps are hard to achieve, complex, time consuming to complete, or dependent on prior steps.

Where Does an Action Plan Belong in an Essay?

Students often combine action steps with their argument. After they argue a point, they list action steps relevant to it. That's not a good idea for two reasons.

First, a case argument and an action plan have entirely different organizing principles. An argument has a logical structure that moves from the position statement to criteria or from causes to evidence. On the other hand, an action plan is chronological. It's an integrated set of actions that unfolds in time. There is no way to reconcile these two different organizing principles. When a writer tries to combine an argument and action plan, something has to give. Usually, the argument wins: action steps are inserted at various points in the argument, thus making it impossible for the reader to know the chronological order of the actions.

The second reason for the separation is the reader. An essay that moves back and forth between argument and action makes understanding both more difficult. When a complex argument unfolds without the interruption of recommended actions, the argument is far more coherent and therefore far easier for the reader to comprehend.

Formatting an Action Plan

The action plan should begin with a few sentences that explain the goals. It should then be organized into sections under the headings "Short Term" and "Long Term." The action steps are most easily understood when they are separate paragraphs or bullet points.

A Suggestion for Developing an Action Plan

The obvious way to create an action plan is to write the steps in the order in which you feel they should occur. Doing so requires you to think about the content of the step and its place in the chronological order of the plan. Our brains can't think of two things at once; instead, we switch rapidly from thinking about one thing to the other, which degrades our overall cognitive performance. A better way is to initially write steps without worrying about their order in time. When you run out of ideas, arrange the actions in the chronological order that makes sense to you and look for gaps that you need to fill with more steps.

HOW TO WRITE CLEARLY, CONCISELY, AND CORRECTLY

One of a writer's major responsibilities is to facilitate reading. Another way of putting this idea is that writers should make their audience's work as easy as possible. You might think that for literate adults, reading is effortless, but it's work and often hard work, particularly when the content is complicated. A writer who throws up obstacles to reading, such as long and convoluted sentences, makes the reader's task of understanding complex content that much harder. As a writer, transparency is your goal. Consider ways to make your writing like a pane of glass so that readers easily see through the words to the meaning you intend.

As you read the following sentence, be aware of how much mental effort you're investing.

As a matter of fact, this backlog of orders that the plants are experiencing at this time of the year makes procurement managers within each plant so busy with making sure that they received enough supply to keep up with the demand, that they would not even afford time delays that this new policy would add to the process at this time of the year, especially because no process is in place to optimize the process for busy times of the year.

Even after you've finished reading the sentence, you probably don't have a clear idea of its meaning, despite the effort you've put into reading it. Now read these sentences:

The backlog of orders puts plant procurement managers under extreme pressure to make sure manufacturing receives raw materials when it needs them. Any delays in procurement could easily slow down production, resulting in unhappy customers, possible canceled orders, and conflict inside the company. From the managers' point of view, the new policy risks a slowdown in procurement.

The second version of the original sentence is divided into several short sentences that are easy to comprehend. It also uses fewer words than the original without loss of meaning.

Imagine an essay that has many sentences similar to the original. Poor writing creates a cascade of negative effects. Readers aren't sure of the meaning even after they've paid close attention to the writing, and they're certain to be annoyed that the writer has made them work so hard for such a small reward. This isn't the result you want from your writing.

The following are qualities of efficient writing that professors and, in the real world, bosses and peers favor. The premise of efficient writing is that readers are rewarded with the maximum amount of meaning for the minimum amount of effort.

Direct

Professors (and audiences in the real world) are reading your writing for one purpose: to understand what you think. Indirect writing obscures or delays the audience's understanding of your thinking and, as a result, frustrates them. Understandably, you may feel anxious about stating your position on a case for fear that it isn't correct. But you gain no protection or advantage from avoiding a direct statement of your position. Say what you think and do your best to prove it.

Concise

When you write something, you implicitly make a demand on the audience's time. It's true that you write about cases because a professor asked you to, but you still want to help the reader make the best use of her time. Sentences that get maximum meaning from the words in them accomplish that goal.

The example at the beginning of this section demonstrates two approaches to writing—one that, intentionally or not, hands off the work of organizing and making sense of the content to the reader and one that makes the reading easy.

Clear

Writing in clear sentences has a significant impact on readers. Clear sentences are transparent. They orchestrate words, sentence structure, and correct use of language to convey meaning to readers. Using active voice

verbs, simple sentence structure, and words familiar to your audience are the ingredients of clear expression.

Active voice verbs are words that make sentences do something. Sentences that use active voice verbs make sentences easier to read than passive voice verbs, according to research. Here is a passive voice sentence:

Plant procurement managers have been put under extreme pressure by a backlog of orders that results from the need of manufacturing to receive raw materials when they are required for production.

Compare it to this sentence, which expresses the same meaning in active voice. The action verbs are underlined.

The backlog of orders subjects plant procurement managers to extreme pressure to make sure manufacturing receives raw materials when it needs them.

The passive voice sentence has more words and makes the reader work harder. The passive voice sentence has thirty-one words, and the active voice sentence has twenty-two; the active voice sentence is 30 percent more efficient than the passive voice sentence. The passive voice example forces the reader to spend more time thinking about the sentence to understand it. One passive voice sentence isn't significant, but consider the cost to the reader of an essay that has many of them.

A good guide for sentence structure is to use active verbs in a simple grammatical pattern: subject-verb-object. Here is a sentence from an example in this section that uses the pattern:

From the managers' point of view, the new policy risks a slowdown in procurement.

The sentence begins with a short introductory phrase, "From the managers' point of view." The subject, "new policy," is paired with an action verb, "risks," followed by a direct object, "a slowdown in procurement." The grammar of the sentence is less important than the fact that the sentence structure is simple and straightforward, resulting in a meaning that readers absorb with ease.

Another aspect of creating clarity is using words that are familiar to the audience. An unfamiliar term stops the reader, who must decide whether to look up the meaning of the word or try to understand it from the context. For example:

The product development meetings instantiated most of the traits of a dysfunctional group.

Most readers will pause at the word “instantiated” and either try to understand it from the context of the sentence or look up the meaning. A more familiar word eliminates the extra effort:

The product development meetings exemplified most of the traits of a dysfunctional group.

The best guidance is to use the language of the audience, including technical terms you can assume they know. If you have a reason for using a word that the audience might not know, define it.

This book is written in English and primarily assumes language and writing-style norms of American business English. The global reality is that many students leave their home countries and study cases in other languages throughout the world. If you are in that situation, there are two issues you should be aware of.

First, students writing in a non-native language can fall into a trap that distracts them from the content of their essays. The trap is trying to impress professors with vocabulary, idioms, and sentence structures that they think will show a sophisticated command of the language. These attempts too often lead to strange word choices, misuse of idioms, and sentences compromised by grammar errors.

Second, when writing in a language that is not their native language, students often compose sentences that conform to the structure and style of sentences in their native language. English, as used in business environments, favors relatively short sentences, economical expression, and familiar language. Written Spanish has different norms, especially in academic settings: it is more hospitable to relatively long sentences and expansive vocabulary. When a Spanish speaker writes an essay in English that observes Spanish norms of expression, the results can be disappointing for the student.

To avoid these problems, be aware that professors are reading your essays for content and ideas, not stylistic displays and arcane vocabulary. The more your written language gets in the way of the reader’s efforts to understand your thinking, the more you risk a negative evaluation of your writing. Also, when you write an essay, avoid language choices (words and idioms) and grammatical choices that you aren’t sure of.

Correct

Mistakes in spelling, grammar, and punctuation affect the reading process of an audience: the reader must correct the mistakes to comprehend the meaning of sentences. A misspelled word causes readers to compare the

letters of the misspelling to the lexicon of words in their brains. If they find a close match between the misspelling and a familiar word and that word makes sense in the sentence, they can continue reading. Frequent mistakes can cause an audience to resent that the writer was careless and shifted error correction to them. Audiences can also question the competence of an author who seemingly doesn't recognize language errors.

Logical

The organization of a piece of writing is arguably the most important characteristic for readers. Writing that has an obvious and logical organization is easier to read and remember. By contrast, when readers run into what appears to be a significant inconsistency in the logical order of the content, they slow down or stop while trying to resequence the ideas.

Let's say you're writing an argument to justify an evaluation of a leader's performance. You begin to discuss the leader's positive performance on a criterion, move on to a negative evaluation on another criterion, and then, without notice to the reader, return to finish the discussion of the positive evaluation on the first criterion. This kind of movement—from A to B and back to A—requires more concentration from readers so that they can identify and repair the disorganization or, failing at that, continue, with a gap in their understanding.

Writing demands a lot from our brains. A writer is not just composing sentences that express her thinking; she's also building structures—paragraphs in which the sentences are connected meaningfully and paragraphs that work together to build a compelling argument. In the upcoming chapters (9, 10, 11) you will learn how to write essays using a distinct structure for each of the three types of core case scenarios described in detail in part I: decision, evaluation, and problem diagnosis.

CHAPTER 9

HOW TO WRITE DECISION SCENARIO ESSAYS

Of the cases you read, the most frequent type of scenario will probably be a decision. That reflects the real world in which organizations constantly make decisions. In a business course that uses cases, you're therefore very likely to have to write about decision scenario cases. This chapter describes the elements of essays about a case requiring a decision. To illustrate these elements, it uses a student's essay about the case "General Motors: Packard Electric Division."

The first step in writing an essay about a case is to identify the core scenario and analyze it. Chapter 4 shows you how to analyze a decision case scenario and is therefore complementary to this chapter. I recommend that you read it before you read this chapter. In part V, you will find a Study Guide for Decision Scenarios Cases. When you have a writing assignment about a decision, use it to take notes on the case and create an outline for your essay.

HOW TO ORGANIZE A DECISION SCENARIO ESSAY

Essays about decision scenarios have five elements. They:

- State the decision that needs to be made and any options.
- Recommend a decision option (i.e., present a position statement).
- State the decision criteria.
- Prove the recommended decision.
- Present an action plan.

The most essential element of the five is the decision criteria. You can't persuasively argue for a decision unless you use relevant criteria that identify compelling evidence in the case and you include that evidence in your essay.

State the Decision That Needs to Be Made and Any Options

You should first tell the reader the decision that has to be made, as it's described in the case, and the options. Most case decision scenarios include an explicit statement of both. The simplest option is yes or no, but cases also can have two or more detailed options. For example, a decision could have two options: develop a new product B with several additional features or continue to sell the current product A, which is cheaper to manufacture than product B. Alternatively, the assignment or exam question may provide the decision options instead of the case. If neither the case nor the question states options, you will have to derive options on your own. Limit them to the most important options you think are implied by the decision.

Position Statement: Recommend a Decision Option

Many exams and assignments about decision scenario cases will ask you what you think the right decision is. When a professor begins to read your essay, she wants to know one thing as soon as possible: What is your position? That's why you should clearly and concisely state your recommended decision early in the essay. When you do, you establish an understanding with your reader: this is my position and now I'll prove it.

State the Decision Criteria

Next, state the criteria you will use to argue the decision. You are answering a primary question a reader (especially an expert reader) will have about your essay: On what basis are you recommending the decision?

Cases don't state decision criteria. You have to infer them from case content, your experience, and appropriate concepts, frameworks (e.g., principles of good leadership), and formulas (e.g., net present value) you have learned. Strong criteria lead you to the case information you need to discern the strongest option. See chapter 4 for more detail on how to identify criteria in a decision scenario case.

You should consider whether you can put your criteria in a logical sequence. If you can, your essay will be much more coherent and persuasive when you use that logic or prioritization to structure your argument. If, on the other hand, you don't use the logical order of the criteria, your argument will seem confused and disjointed to readers, and that could diminish the persuasiveness of your essay.

There are two other points about criteria that you should keep in mind. First, the number of criteria should be limited to only those that are critical to make the decision. It may seem right that an argument about a complex case situation should have many criteria. But it's difficult to write an argument with many criteria, and the essay will be hard for readers to follow. Another drawback is that when you have many criteria, your proof of each criterion is likely to be shallow.

Second, effective criteria tend to be broad rather than narrow. The more general the criteria, the more inclusive they are—up to a point. Criteria that are too abstract will yield very little useful information about the decision. The trick is to hit the right level of abstraction. The criteria that the author of the sample essay uses are fairly broad:

- Customer needs
- Cost
- Production process
- Company strategy

However, to be useful, criteria sometimes have to be broken down into sub-criteria. For example, the cost criterion is divided into sub-criteria that correspond to evidence in the case: redesign costs and engineering change orders (ECOs).

Prove the Recommended Decision

Proving your recommended decision is the pivotal section of a decision essay. In it, you use an argument to show why your recommended decision is superior to the other options. The most straightforward way to structure your argument and the easiest for your reader to understand it is by criteria. You have already introduced them to your readers at the beginning of the essay, and they will anticipate that you are going to use them that way. The proof consists of presenting the most compelling evidence related to each criterion and showing how it supports your recommended option.

Present an Action Plan

The purpose of a decision action plan is to implement the decision as effectively as possible. Here are some questions to think about when you're planning the action plan:

- What actions are essential to implement the decision?
 - What urgent actions must be taken?
 - What other short-term actions are necessary, but not urgent?
 - What are the long-term steps?
- Who should be involved in the implementation? (And, possibly, who should not be involved?)
- What groups, teams, or departments are necessary for successful implementation?
 - What are their roles in the implementation?
 - What groups, teams, or departments could oppose or undercut implementation? What actions can soften or eliminate their opposition?
- What things could go wrong with the implementation? What actions could avoid or mitigate these problems?

For more information about action plans, see chapter 8.

DECISION SCENARIO ESSAY

Below you'll find a sample decision scenario essay. Please read the case it is based on, "General Motors: Packard Electric Division" (page 173), and the essay. After the student essay, you'll find a discussion of the organization, content, and writing style.

- *Case:* "General Motors: Packard Electric Division"
- *Question:* What should David Schramm do? The word limit is 1,500. (Note: the author uses slightly fewer words than the limit.)

David Schramm of Packard Electric (PE) must make a decision about the RIM grommet, a new and innovative part for automobiles. He has three options:

1. Go exclusively with the RIM grommet for the 1992 model year.

2. Add a RIM production line for parallel production of the IHG and RIM.
3. Stick to the older IHG grommet and continue development of the RIM.

Schramm should recommend that PE go exclusively with the RIM grommet for the following reasons: it meets customer needs, brings cost savings, improves the Packard Electric production process, and fits the company's overall strategy.

The four criteria for the decision are:

- Customer needs
- Cost
- Production process
- Company strategy

Customer Needs

The RIM needs to fulfill critical customer needs. If it doesn't, there's no point in committing to it.

PE's main customer for the RIM wants it badly. They are already unhappy that the project has moved so slowly. The customer is unsatisfied with the IHG because of its tendency to crack, resulting in water leakages. Attempts have been made to solve the cracking problem, but all have failed. It seems to be inherent to the design.

The RIM has much less tendency to crack, is smaller than the IHG, which is important in the cramped spaces where car wiring is installed, and makes possible a substantial increase in electrical content with a low investment in engineering. The customer has even indicated that they are not price sensitive about the RIM. The reason might be that the new part will be used in high-end automobiles and reliability in that type of car is more important than the price of components. Overall, the last thing the company should do is back out of its commitment to have the RIM ready for 1992, even if the Packard Electric engineer who made the commitment wasn't authorized to do so. Delaying production of the part could permanently damage the relationship with the customer, hurt Packard Electric's reputation for reliability, and possibly motivate the customer to find another source for a RIM version of the old part.

Cost

The RIM will save PE money. There are two major categories of savings:

- Redesign costs
- Engineering change orders

The RIM costs more than 75 percent less to redesign than the IHG and doesn't need to be redesigned as often because its pass-through areas can easily double its capacity. It can save 370 hours of engineering time every year. Also, this flexibility makes it suitable for different model cars, resulting in more engineering savings. Due to its flexibility, the RIM will reduce the number and costs of engineering change orders (ECOs) dramatically. Reducing the cost of ECOs is a major goal at Packard Electric. ECOs consume 50 percent of the time of 500 engineers each year. The cost of engineering time is \$50. The RIM can reduce ECOs by 25 percent per year or an astonishing \$12 million a year.

There are no numbers in the case to estimate the cost of maintaining the inventory of 45,000 spare parts that ECOs require. With fewer ECOs, fewer spare parts will be needed, reducing the inventory costs. The savings could be substantial.

Production Process

The RIM introduction will bring production process improvements. Instead of the five major steps required to produce the IHG, RIM production requires only three. This will decrease both idle and labor times and improve the reliability of the process. The changes will eventually make PE more efficient and therefore more competitive.

Company Strategy

An innovative product that requires significant investment must be consistent with the company's strategy. The RIM fits PE's strategy because it will make PE more competitive; help its largest customer, General Motors, to be more competitive; and diversify PE's customer portfolio so that it isn't so dependent on GM. The RIM improves PE's efficiency and boosts the competitiveness of

the parent company and its largest customer, GM. GM is losing market share to Japanese companies and must make its vehicles more attractive to buyers. One way to do that is to introduce more electrical content into its vehicles, which the RIM facilitates. Another way is to improve the quality of its vehicles. The RIM contributes to that goal by reducing the rate of water leaks in GM vehicles. Finally, the RIM should be attractive to other manufacturers of high-end automobiles, which supports PE's effort to expand its customer base.

The Middle Option

The middle option of parallel production of the IHG and RIM has major drawbacks:

- It wouldn't fully meet customer needs because they would have to use two different grommets on their assembly lines, which would likely lead to confusion and costly mistakes.
- Having to build, maintain, and run two separate production lines would raise costs, in part because more employees would have to be hired.
- Two different lines making two different types of grommets would make the production process far more complex than it is now.
- The middle option offers no advantage for the company's strategy and potentially could create a disadvantage if it alienated the customer.

Risks

However, there are some risks of committing to the RIM. The project progress has been slow and might not meet the deadline. RIM production is new and more technologically complex, and there is no guarantee the process will be ready in time. Also, there is a risk that the Mexican plant will not perform this complex production process properly. If something goes wrong, it could put customer operations at risk. Finally, the manufacturing division is opposed to the RIM and could undermine its production.

These risks can be reduced or eliminated with specific actions included in the action plan. However, every new product carries some risk. The RIM isn't unique in that respect.

Action Plan

The goal of the action plan is to successfully transition to the RIM and mitigate the risks.

Short Term

- Make the decision to go with the RIM and announce it to everybody. Emphasize that there is no going back to the old technology.
- Also, communicate that the RIM decision has revealed major problems with the product development process that disadvantage manufacturing and other stakeholders and need to be fixed as a long-term goal.
- As soon as possible, organize a dedicated team of product development and manufacturing engineers to complete the RIM project, above all, working out the production process. Shift other resources to the team, as necessary, to meet the customer's deadline for the 1992 model year. Update management on the progress every week.
- Report progress to the customer.

Medium Term

- Build the RIM production line, test it, and begin production.
- Form another joint team of product development and manufacturing engineers and send them to Mexican sites to prepare the workforce and management there for the RIM.
- Organize workshops for manufacturing division managers and engineers to explain the benefits of the RIM for customers and PE. Be candid and tell manufacturing that the product development process has put undue pressure on them. At the same time, make clear that the goal of manufacturing is not product design but timely and excellent quality production.

Long Term

- Use savings from switching to the RIM to establish a group of all stakeholders charged with redesigning the product development process so that it's representative of all stakeholders, stays on schedule, has adequate resources, and is tailored to the customer's need.
- Improve the RIM process to make it more efficient, reliable, and less costly.

DISCUSSION OF THE DECISION SCENARIO ESSAY

The following discussion points out how the writer used the elements of the decision scenario to structure his essay and takes a close look at the criteria, the proof of the overall evaluation, and qualities of the writing that make the essay easy to read.

State the Decision and Any Options

The sample essay responds to this question:

What should David Schramm do?

Schramm is the main character, and the first section of the case tells us that he has been asked to recommend a decision to a Packard Electric committee: whether to begin production of the RIM grommet, which is used in automobile assembly to pass electrical wiring from one part of a vehicle to another. The decision is first presented as an implied yes or no: go with the new part or not. However, the last section of the case describes three specific options, and the author of the essay summarizes them:

- Go exclusively with the RIM grommet for the 1992 model year.
- Add a RIM production line for parallel production of the IHG and RIM.
- Stick to the older IHG grommet and continue development of the RIM.

Position Statement: Recommend a Decision

The writer provides a position statement that is clear and to the point:

Schramm should recommend that PE go exclusively with the RIM grommet for the following reasons: it meets customer needs, brings cost savings, improves the Packard Electric production process, and fits the company's overall strategy.

Sometimes writers attempt to do too much in their position statement and end up muddling the statement, as in the example below:

This decision is a complicated one and Schramm is in a difficult position because time is short, and manufacturing is opposed to the RIM for a variety of reasons, as we learn later in the case. He knows that whatever his recommendation is, it's going to make someone unhappy. He could also be accused of bias because he comes from the side of the company that works on product development.

Some of these issues might be worth discussing at some point in the essay. However, at the beginning of the essay, the reader wants to know the writer's choice of a decision, not background factors. You may read the short position statement and find it clinical and not very interesting. In some situations, that might be a fair criticism. Yet, persuasion serves the needs and expectations of the specific audience of a piece of writing, and the audience for a case-based essay is a professor who wants to know your answer to the question. Her evaluation of the essay can't begin until she has that information. The position statement tells her what she wants to know.

In a strong position statement, you articulate the reasons for your position after you declare your recommendation. The reasons provide a high-level overview of the essay's argument. The writer of the sample essay does this in the second part of his position statement.

State the Decision Criteria

The writer then tells us that he will use four criteria to argue his recommendation:

- Customer needs
- Cost
- Production process
- Company strategy

The author didn't have formal, integrated frameworks to work with, but he did have concepts he learned in an operations course—customers, manufacturing-related costs, production process, and strategy—to identify criteria that fit the case. The other basis for the criteria was the case content. In the case narrative, the writer found evidence associated with each of four operations concepts, and all of them seemed to have a strong connection to Schramm's decision.

The fundamental decision is whether to commit completely to a new product that has advantages over an older product but also entails risks. The middle option is running two separate production lines, which can be viewed as a compromise solution. If the writer felt that the evidence didn't warrant a full commitment to either the new or old part and the costs and resource demands of that option were acceptable, he could choose the middle way.

As mentioned earlier, you should always ask yourself whether decision criteria have a logical sequencing. The sample essay reflects the specific sequencing of criteria that the author felt would best present his argument:

- Customer needs come first because, the author says, “If the RIM doesn't fulfill critical customer needs, the risk of either full or partial commitment doesn't seem justified.”
- Cost is the second criterion because, in the author's view, it is the major internal benefit of the RIM.
- The production process can also benefit from the switch to the RIM. However, it's less important than other criteria because of limited evidence about it.
- Company strategy is last because the preceding criteria provide evidence that the new product fits the Packard Electric strategy. For example, one strategic goal is expanding the customer base. The writer argues that the RIM has high value to customers, setting up the argument under the strategy category that it helps attract new customers.

When you state criteria at the beginning of your essay, be aware of the expectation you're creating in the mind of your reader. She will assume that you're going to argue your criteria in the exact order of the list. If you violate the order, you confuse her. Throughout this discussion of the essay, you'll encounter mentions of mistakes or practices that cause reader confusion. They may seem trivial, but bear in mind that small confusions can build into large ones and hurt the reader's evaluation of your writing.

Prove the Recommended Decision

The essay presented in this chapter has sixteen paragraphs that precede the action plan. Eleven are concerned with arguing the recommendation. This may seem excessive, but in fact, it is an appropriate allocation in a decision scenario essay. Professors are interested in how you reason. They devote much of the time in their courses to help you learn how to think critically about a subject or topic. A case essay is a way for them to gauge how well you can reason about case situations and express your reasoning in arguments.

The argument of the sample essay begins with the customer needs criterion. It says that the RIM must address needs important enough to customers to be worth the risk of committing to it. It then specifies those and goes a step further to say that not delivering the RIM in 1992 could be detrimental to Packard Electric in several ways. The evidence is qualitative, and the proof combines case facts (“PE’s main customer for the RIM wants it badly. They are already unhappy that the project has moved so slowly”) with inferences (“The reason might be that the new part will be used in high-end automobiles, and reliability in that type of car is more important than the price of components”).

The cost criterion argument depends heavily on quantitative proof. The writer says that the RIM will save PE money and the purpose of the section is to prove that statement. He breaks out costs into two categories that draw on different quantitative evidence in the case. If you read the argument about cost savings closely, you’ll see that it isn’t merely a matter of citing numbers from the case. Let’s study the writer’s argument on cost.

The first instance of quantitative evidence in the sample essay is the argument about redesign costs. The writer uses numbers to prove that the redesign costs of the RIM are likely to be much lower than those of the IHG. His most powerful supporting evidence on cost savings comes next. The writer could just say that the RIM will save ECO engineering costs. Wouldn’t it, though, be more persuasive to have an estimated dollar amount of savings? The writer thinks so and does a “back of the envelope” calculation with one assumption: the RIM can reduce ECOs by 25 percent per year. That assumption allows the writer to estimate ECO savings, which are large and a very strong piece of evidence for his recommendation. The truth is that the writer has a great deal of latitude in making the assumption about the reduction in engineering time spent on ECOs. The savings are going to be significant under any reasonable assumption.

Following the argument for the recommended decision, the writer has to address the middle option of running two parallel lines for the RIM and the IHG. The writer applies his decision criteria to prove that it has major drawbacks.

The last section of the argument begins with the heading “Risks.” Every decision has risk associated with it, without exception. You might think that omitting risks strengthens your argument, but professors usually reward transparency. Merely identifying risks isn’t enough, though. You should be able to counter them, explaining why they aren’t going to happen, are unimportant, can be reduced or eliminated, or can be accommodated in a way that isn’t fatal to the decision. The sample essay assigns the response to risks to the action plan, which is appropriate.

Present an Action Plan

The action plan begins with a goal and has three chronological sections. (Action plans can be written with just short-term and long-term steps.) Clearly signaling the timing of your action plan is essential. You want your reader to understand the time sequence of your proposed actions.

The goal of the action plan is to implement the decision. The one in the sample exam adds a second goal: mitigation of risks, which several of the action steps deal with. The first short-term steps include the statement that “there is no going back to the old technology,” which sends a message to all parties that the decision has been made and attempts to reverse it won’t be tolerated. At the same time, the next step lets everyone in the company know that the product development process is broken and is going to be fixed.

The short-term steps are all urgent in different ways. The one central to RIM implementation is forming a cross-disciplinary team and dedicating all necessary resources to meet the customer’s deadline for using the RIM in its 1992 model year vehicles.

The medium-term steps are actions that can or must wait until the urgent steps are underway or completed.

Long-term actions require previous steps, are related to long or complex projects, or have a lesser priority. The major long-term step in the sample essay is to launch the redesign of the product development process. The redesign is necessary because the process isn’t working as it should. There was no coordination between the product development engineer working with the customer who wanted the RIM and Packard Electric’s product development team or manufacturing. As a result, the development of the part fell far behind schedule, and manufacturing was brought

in much too late. The redesign belongs in the long-term section because it must wait until the RIM is ready for full-scale production.

Writing Clearly, Concisely, and Correctly

The essay is written in sentences that are generally short and grammatically simple. The writer is concerned with presenting his thinking as transparently as he can and not embellishing his sentences with extra words and complicated sentence structures. Many of its key statements are simple sentences such as,

The RIM needs to fulfill critical customer needs. If it doesn't, there's no point in committing to it.

The RIM is more cost effective than the IHG and will save PE money.

The writer often begins paragraphs with sentences that tell the reader the point that the paragraph will prove. Examples:

The RIM is more expensive to manufacture than the IHG, but the difference in costs will gradually decrease.

Due to its flexibility, the RIM will reduce the number and costs of engineering change orders (ECOs) dramatically.

The essay is highly structured. The author has carefully constructed it from the elements of a decision essay. The writing uses lists to call out the decision options and criteria so that readers can read them more easily. However, the writer doesn't write the essay in bullet points. He uses headings sparingly to guide the reader through the argument and action plan. The sections stay focused on the subject of the heading that begins them, never straying into tangents.

The essay has no grammar, punctuation, or spelling mistakes. One hundred percent correctness is always the goal when writing. Always proofread your essay. When writing an exam, try to leave a little time at the end to do this. It doesn't take long and can make a significant difference in the impression you make on readers. Hunt for high-priority mistakes such as verbs that don't agree in number with the subject or are in the wrong tense, sentences with grammatical errors that make them difficult to understand, and incorrect or missing punctuation.

CHAPTER 10

HOW TO WRITE EVALUATION SCENARIO ESSAYS

A case evaluation scenario portrays a situation in which a deeper understanding of a subject—such as a person, team, product or service, company, country, strategy, or policy—is necessary. This deeper understanding comes from an evaluation, often of the worth, value, performance, effectiveness, outcome, or consequences of the subject.

The main character of the case can be responsible for the evaluation or be the subject of one. Your professor may also pick an aspect of a case and ask you to write an evaluation of it. That is true of the sample essay included in this chapter. The student was asked to evaluate an important element of the case “Malaysia in the 1990s (A).”

To write an essay about a case, you must be able to identify the core scenario and analyze it. Chapter 5 shows you how to recognize an evaluation scenario and is therefore complementary to this chapter. I recommend that you read it before you read this chapter. On pages 235–240 you’ll find a Study Guide for Evaluation Scenario Cases. When you have a writing assignment about an evaluation, use it to take notes on the case and to create an outline for your essay.

HOW TO ORGANIZE AN EVALUATION SCENARIO ESSAY

Essays about evaluation scenarios have five elements. They:

- State your overall evaluation (i.e., present a position statement).
- State the evaluation criteria.
- Prove the overall evaluation.
- Explain and respond to any major contingencies.
- Present an action plan.

As with decision scenario essays, the most essential element of evaluation scenario essays is the criteria you use. You can't persuasively argue an evaluation unless you use relevant criteria. Criteria are derived from case content, your experience, and concepts, frameworks, and formulas relevant to the content, such as the principles of accounting or the 4Ps of marketing.

Position Statement: State Your Overall Evaluation

Your essay should begin with an overall or bottom-line judgment. It is your position statement—the most important statement of the essay. An overall evaluation typically mentions the major positive and negative findings. Case-based evaluations are rarely, if ever, all positive or all negative because cases are about the real world in which most subjects are neither perfect nor hopelessly flawed. You gain credibility with readers when you look at both sides of the subject.

Here are examples of overall evaluations that reflect different judgments of positives and negatives:

- Despite a few setbacks and false starts, Carrie Liu has exercised excellent leadership since being promoted. (Overall positive)
- The company's strategy was effective until new entrants in the industry were able to deliver the same service at lower prices, a development the company didn't foresee or respond to quickly enough to remain competitive. (Overall negative)

State the Evaluation Criteria

Cases don't state evaluation criteria. You infer them from case evidence, your experience, and relevant concepts and frameworks you have learned. See chapter 5 for more detail on how to identify criteria in an evaluation scenario case.

You should consider whether your criteria have a logical sequence. If they do, use the logic to structure your argument. (If you ignore the logical order, your argument might seem disjointed and confusing to your readers.)

Keep two other points about criteria in mind. First, the number of criteria should be limited to those that are critical for making the evaluation. It might seem that an evaluation of a subject should have many criteria. But it's difficult to write an argument with many criteria, and the essay will be hard for readers to follow. Another drawback is that when you have many criteria, the proof of each criterion in your essay is likely to be thin.

Second, effective criteria can be broad or narrow, depending on the case. The more general the criteria, the more inclusive they are—up to a point. Criteria that are too broad will yield very little useful information about the evaluation. The trick is to hit the right level of abstraction. See chapter 5 for more details about how to analyze an evaluation scenario in a case.

Prove the Overall Evaluation

The proof of your overall evaluation is usually the longest part of the essay. The most straightforward way to structure your argument proving the overall evaluation and the easiest for your reader to understand is by the evaluation criteria. You have already introduced them to readers, and they are likely to expect you to use them to organize the argument. The argument consists of presenting the most compelling evidence related to each criterion, showing how it supports your overall evaluation, and acknowledging evidence that opposes your overall evaluation.

An accurate evaluation needs to include whatever the criteria indicate about the subject. Learning and practicing case-based evaluation encourages two habits of thinking that can be valuable for you:

- Analytical honesty
- Taking seriously the evidence opposed to your overall evaluation

Explain and Respond to Any Major Contingencies

Every evaluation is subject to contingencies: current conditions or potential events that can have an impact on your overall evaluation. In a case essay, you should acknowledge only major contingencies—those that have the potential to change your overall evaluation.

You may be familiar with financial forecasts that require an assumption about the rate of inflation over a period of years. The assumption could turn out to be wrong if unforeseen events result in a significant change in the inflation rate; the change might make the financial forecast incorrect. Thus, the forecast is contingent on a reasonable prediction about inflation. The same can occur with evaluations. Let's say you evaluate a proposed marketing plan in strongly positive terms. Nevertheless, you recognize a significant contingency could change your position drastically:

The success of the marketing plan is contingent on a knowledgeable, stable salesforce. If the company can't lower the current rate of turnover in the salesforce, the plan will probably fail.

When you state a contingency in an essay, you will be more persuasive if you explain how it can be controlled or eliminated.

Please pay attention to this caveat: a contingency isn't mandatory for an evaluation. Don't spend a great deal of time during your case analysis hunting for a contingency. If you aren't aware of one as you plan and write your essay, don't feel compelled to find one.

Present an Action Plan

The goal of an evaluation action plan is to improve the situation described in the case. The best way to lay out an action plan is in chronological order, short term and long term (and medium term, if necessary). Here are some questions to think about when you're planning the action plan:

- Which of your findings can benefit most from action?
 - What urgent actions will result in the greatest benefit?
 - What other short-term actions are necessary but not urgent?
 - What long-term steps will result in the most benefit?
- Who should be involved in the action steps? (And, possibly, who should not be involved?)
- What things could go wrong with the action plan? What actions could avoid or mitigate these problems?

For more information about action plans, see chapter 8.

DEMONSTRATION: AN EVALUATION SCENARIO ESSAY

Below you'll find a sample evaluation scenario essay. Please read the case it is based on, "Malaysia in the 1990s (A)" (page 213), and the essay. After the student essay, you'll find a discussion of the organization, content, and writing style.

Case: "Malaysia in the 1990s (A)"

Question: Mahathir bin Mohammad, the prime minister of Malaysia, has expressed satisfaction with the country's

development strategy. Evaluate the strategy. Be sure to acknowledge both strengths and weaknesses. The word limit is 1,500.

(Note: the author used a few words less than the limit.)

The prime minister of Malaysia, Mahathir bin Mohammad, believes his country's development strategy has been successful. Overall, I agree. It has contributed to strong economic development and is a foundation for social and political stability. However, the strategy has two weak elements: excessive logging and the transfer of wealth from one ethnic group to another. He should not let his hostility to the complaints of foreign environmentalists cloud his understanding of the strategy's weaknesses.

I will use four criteria to evaluate Malaysia's development strategy: economics, social conditions, politics, and environmental concerns. The evaluation is divided into strengths and weaknesses.

Strengths

Economics

The development strategy has resulted in strong economic growth. The Malaysian GNP grew at a CAGR of 5.89 percent over ten years, less than only the "tigers" of South Korea and Taiwan. The currency was stable and inflation subsided to low levels in the second half of the period. The unemployment rate was relatively low, indicating a healthy economy, and the government managed its fiscal affairs well, limiting its borrowing, especially from foreign investors, and did not increase government expenditures relative to revenue. The largest part of the economy was private consumption. A cornerstone of the government's strategy was to decrease commodity exports and increase value-added exports, and exhibit 3 shows the strategy worked. Manufacturing increased as a percentage of GDP, while commodities decreased.

Exports were the largest portion of GDP in 1990. Agriculture, forestry, and fisheries accounted for 19 percent of Malaysian GDP, the third largest contributor to GDP after services and manufacturing. Development of the forestry industry boosted other industries such as rubber and oil palm, which are grown after the original forest is cleared. Rubber and oil palm exports accounted for 10 percent of Malaysian exports.

The Malaysian government was right to encourage downstream wood industries. It encouraged additional employment. For instance, in Sarawak, close to a tenth of the market labor is employed by timber and related industries. The current policy helps to some degree to counter deforestation by shifting more and more labor to finished-goods production. Another advantage of the downstream policy was that it progressively reduced the economy's exposure to volatile commodity prices, making the country more economically independent and stable.

Social Conditions

Social conditions are Malaysia's greatest vulnerability. The country is multiethnic. The Malays and indigenous groups, called the Bumiputra, are 50 percent of the population, with ethnic Chinese and Indians making up most of the rest. Historically, both minority groups have had more wealth and political power than the Bumiputra. As a result, ethnic tension was a serious danger. The tension exploded in the late 1960s with riots and deaths, threatening the stability of the country.

Politics

The country's political system responded to the social crisis with a new policy of income redistribution. The policy worked because of Malaysia's strong economy.

Political parties divided along ethnic lines, but they formed coalitions that reached across ethnic divisions. This practice of inclusion may have saved the country during the crisis. The government could have stood by as the majority drove out the prosperous Chinese and Indian minorities or could have taken harsh steps to discriminate against them. However, the government apparently realized that such steps would severely damage the economy and everyone would end up worse off.

Instead of confiscating wealth, the government decided to redistribute it by adopting the New Economic Policy (NEP). Quotas were set for majority participation in education and the economy. The policy reduced the income gaps between the major social groups, primarily because the strong economy increased the income of all groups.

Aggressive development of forestry industries was a cause of the NEP's success. In 1976, the monthly average income household in

Sarawak was 719 Malaysian ringgits. This was below the Malaysian average of 850 ringgits. By 1990, partly due to the development of forestry and related industries, the monthly average income of households in Sarawak was 1,208 ringgits, higher than the national average, 1,167 ringgits. Over that time, the Bumiputra had an income CAGR of 4.8 percent in Sarawak and 2.7 percent in the country as a whole, higher than any other ethnic group. Despite these gains, they were still the poorest ethnic group in the country.

Environmental Concerns

Claims from environmental groups deserve some credit. They alerted the national government to the possibility of unsustainable logging, which could in the medium to long terms hamper its strategy of building up value-added industries that use wood as an input. But the environmentalists had a global agenda and didn't try to see the situation from the Malaysians' point of view.

Their threat of a Western ban on Malaysian wood exports was futile and foolishly put them in an adversarial relationship with the government. The bulk of the country's log exports are to the Far East, especially Japan, and countries in the region are very unlikely to join a boycott. Only about 10 percent of Malaysian exports go to the United States, the country most likely to ban Malaysian timber.

Weaknesses

Environmental Concerns

Indirectly, government officials have admitted that the rate of current logging is unsustainable. They acknowledged 10 percent to 20 percent overproduction, and there is no obstacle to it growing to 30 percent to 50 percent. The Sarawak government accepted a report by the International Tropical Timber Organization (ITTO) that called for a 100 percent reduction in annual timber harvests, an implicit admission that current levels are unsustainable.

Unsustainable logging in the country would eventually outrun the ability to renew wood natural resources and lead to the collapse of the forestry industry, eliminating one of the main engines of growth and reigniting ethnic tensions as the economic pie shrank. Moreover, it would be a problem that the government couldn't fix quickly. Restoring forests takes decades.

Politics

The NEP was a quick fix to economic inequality. It worked but had a long-term downside. It requires businesses to have Malay partners. They don't have to be active in the business; in economic terms, they are a cost of doing business for the Chinese or Indian owner. The NEP gives Malays no incentive to form businesses of their own. Therefore, the NEP isn't a long-term solution to income inequality.

Contingencies

The greatest vulnerability of Malaysia's development strategy is a downturn in the growth of the economy. Growth drives the success of the NEP. It keeps the major ethnic groups content because all of them enjoy rising incomes. However, a significant downturn in the economy would stop or reverse the growth of incomes, which would hurt Malays the most because they have much lower incomes than the Chinese or Indians. The effects of a shrinking economic pie could once again lead to ethnic and political conflict.

Action Plan

Goal: The Malaysian government should maintain current policies in the short term, but in the long term, it must address unsustainable logging and the economic distortions of the NEP.

Short Term

- The prime minister should tell Western nations and environmental groups that it won't drastically reduce logging. He should also make clear that the country will continue to follow the current development strategy.
- But the prime minister should tell parliament that the strategy needs to be modified or future growth will be jeopardized. He should open a conversation with all parties about managing natural resources better and changing the terms of the NEP to eliminate economic distortions while maintaining strong support for raising the incomes of Malays.
- The prime minister should form a task force of government agencies and stakeholders to create a master plan for

managing all of its natural resources, particularly timber. Its mandate would be to create a plan that balances the short- and long-term economic needs of the country and the preservation of forests for a variety of uses.

- In the meantime, the government should hire more foresters to stop illegal logging and gradually lower the size of the timber harvests. The central government should also take over the concession system in Sarawak to make it less corrupt and less prone to encourage excessive logging.

Long Term

- The government should modify the NEP to phase out the requirement that all businesses must have Malay partners and instead provide money, education, and technical support directly to Malays to assist them in opening their own businesses. It should also consider creating economic zones for Malay-owned businesses in which taxes are waived for a period of time and other incentives are provided.
- The country should gradually phase in many of the recommendations of the International Tropical Timber Organization. The country should hire more foresters and set aside more land for Totally Protected Areas.
- The Totally Protected Areas should be promoted as tourist destinations. International environmental organizations might be willing to provide technical expertise for managing them and giving them some kind of endorsement.

DISCUSSION OF THE EVALUATION SCENARIO ESSAY

The following discussion points out how the writer used the elements of the evaluation scenario to structure it and takes a close look at the criteria, the proof of the overall evaluation, and qualities of the writing that make the essay easy to read.

Position Statement: State Your Overall Evaluation

The author succinctly tells the reader his position:

The prime minister of Malaysia, Mahathir bin Mohammad, believes his country's development strategy has been successful. Overall, I agree.

He then lists two positive reasons for his position and two negatives, which suggests that he's been objective and hasn't overlooked or ignored results that don't agree with his position. His forthrightness about reasons that conflict with his position give more credibility to his position.

The writer briefly tells readers the reasons for his position in the paragraph and his criteria in the second paragraph. He could also state the reasons and omit the paragraph about the criteria or simply state his criteria. As long as readers know the basis of your evaluation, they can anticipate the organization and content of the essay. Nevertheless, when you include both criteria and reasons, readers have more information about what to expect.

State the Evaluation Criteria

The major sections of the essay's argument are organized around the criteria: economics, social conditions, politics, and environmental concerns. The author's criteria are derived from macroeconomics and other analytic concepts useful for understanding how countries develop along with the structure and content of the case. The section headings of the "Malaysia" case give strong signals about appropriate evaluation criteria.

In the last two sentences of the second paragraph, the author gives readers important information about the structure of the essay. He states his evaluation criteria and says he will discuss strengths first and then weaknesses. Readers now know how the essay is organized; they can anticipate the structure and content of the reading. They can form a map of the content in their minds, which creates places to put information and remember it.

Prove the Overall Evaluation

An initial choice the writer had to make was how to organize his argument to support his overall evaluation. He had two basic choices: by strengths and weaknesses or by criteria. Here's the outline of his argument:

- Strengths
 - Economics (criterion)
 - Social conditions (criterion)

- Politics (criterion)
- Environmental concerns (criterion)
- Weaknesses
 - Environmental concerns (criterion)
 - Politics (criterion)

As you can see, he made strengths and weaknesses his main categories and argued them using the criteria relevant to each. Notice that the strengths and weaknesses sections have two criteria in common because they revealed both strengths and weaknesses. That's not unusual in an unbiased evaluation.

The other organization the writer could have used looks like this:

- Economics (criterion)
 - Strengths
- Social conditions (criterion)
 - Strengths
- Politics (criterion)
 - Strengths
 - Weaknesses
- Environmental concerns (criterion)
 - Strengths
 - Weaknesses

Knowing reusable patterns of organization is helpful because you don't have to invent the organization of your essay every time you write. Both evaluation organizations work—one isn't better than the other. Choose the one that you think provides the clearest and most compelling presentation of your argument.

The author begins the argument confirming his position statement—that the development strategy has been successful, as the prime minister of Malaysia claims. The writer's first criterion-based argument is economics. Clearly, it's a leading criterion for evaluating a country's development strategy, and the case evidence strongly skews to economics.

An economics argument usually requires numbers as evidence. The author has mined the case for numbers that bolster his position statement.

He cites as support general economic indicators, exports, and the development of value-added wood-based industries. This is a good example of how you can use concepts and metrics to provide evidence for an argument. It also shows why a variety of numbers are more persuasive than one or two. All of the numbers support the position statement. (Cases with little quantitative evidence may limit you to one or two numbers.)

The evidence for social conditions is almost completely qualitative, while the politics section of the essay shows how to combine numbers with qualitative evidence to prove a point. The politics section argues that a new policy quieted a political and social conflict that could have destabilized the country and potentially erased the country's growth.

In the environmental concerns sections, the writer points out that international environmentalists are motivated by a global agenda that doesn't take into account Malaysia's situation. He also says that a Western ban of Malaysian timber wouldn't harm the economy or force it to modify the development strategy.

Nevertheless, the environmentalists do raise a problem with logging in the country that the government should be concerned about. The writer makes that point when he switches to the weaknesses of the development strategy. He finds evidence that timber harvests are unsustainable. The government admitted to overproduction against its own plan (page 206 in the case [Concession System/last paragraph], and the Sarawak government accepted a report by the International Tropical Timber Organization (ITTO) that called for a 100 percent reduction in annual timber harvests (page 210 [Possible Changes in Forest Management/The ITTO Report and Its Recommendations/third paragraph]), an implicit admission that current levels are unsustainable.

Both pieces of evidence about unsustainable logging are easy to miss. The case doesn't call attention to them; in fact, they're buried in discussions about other issues toward the end of the case. To notice evidence like that, you have to know what you're looking for. The author's environmental concerns criterion directed his attention to evidence about the environmentalists' contention that Malaysia's timber industry was out of control. The case frames logging in a way that obscures a concern that the Malaysia government and the environmentalists share, although for different reasons. It describes the foreign environmentalists as focused on conservation and global needs, while it portrays the government as focused primarily on logging as a driver of economic prosperity. Although they don't seem to know it, the common concern for the government and foreign environmentalists is sustainability, a balance of harvest and conservation that contributes to economic growth without eventually choking it off,

and to the maintenance of environmental equilibrium. This is an insightful comment by the author.

The second weakness the writer sees in the development strategy is the New Economic Policy (NEP). He recognizes that the policy achieved its goal of raising the income of the Malays but introduced harmful incentives.

In the contingency section, the author explains what he thinks is the most important condition that helps sustain growth in Malaysia but is vulnerable to change. Consistent economic growth made the NEP work and thus maintained the peace among the three major ethnic groups—Malays, Chinese, and Indians—because they all benefited. An economic downturn could destroy that equilibrium. The writer says that negative economic growth would almost certainly hurt the Malays to a greater degree than the far more affluent Chinese and Indians.

Present an Action Plan

The purpose of an evaluation argument's action plan is to reinforce the strengths or positives of the evaluation and improve the weaknesses or negatives. The sample essay's action plan has goals consistent with the argument and with the general purpose of evaluation action plans: it calls for sustaining the successful strategy and taking action to fix its weaknesses. The short-term plan combines steps that maintain the current development strategy with ones that prepare for changes that will strengthen it in the future.

The long-term steps capitalize on the short-term actions. They introduce reforms of the national timber harvest, thus supporting sustainable timber exports and wood-based, value-added manufacturing. One of the steps proposes making a negative—the reduction of logging—into a positive: promoting Malaysia's tropical forests as an asset in the tourist industry. The long-term steps also target the second weakness that the evaluation revealed: reform the terms of the NEP to provide direct support to the majority Malays and their economic independence.

Writing Clearly, Concisely, and Correctly

The essay is written in sentences that are generally short and grammatically simple. There is a common misunderstanding among both native and non-native speakers of English that long and grammatically complex sentences show that the writer is intelligent. But the length of sentences doesn't prove that to readers. Quality of thought and clarity of expression are what truly matter to an audience. Simple, short sentences or long, complex ones can meet the quality and clarity goals, but the former are a

safer option. The longer the sentence, the greater the risk of grammar and punctuation mistakes. If readers aren't sure of a writer's intended meaning, the quality of thought is going to be lost on them.

The writer of the “Malaysia” essay—a non-native English speaker—strives to present his thinking transparently. He doesn't try to embellish sentences with extra words and complicated sentence structures. Many of the essay's key statements are simple sentences. These are the first three sentences of the essay, arguably the most important in the essay because they answer the assignment question and give the audience a sense of how easy or difficult the reading task is going to be:

The prime minister of Malaysia, Mahathir bin Mohammad, believes his country's development strategy has been successful. Overall, I agree. It has contributed to strong economic development and is a foundation for social and political stability.

Note that the sentences are simple, subject-verb-object, except the second, which doesn't have an object. While they are simple in a structural sense, they communicate the writer's thinking effectively and satisfy the audience's desire to know the writer's response to the question.

The writer often begins paragraphs with sentences that tell the reader the point that the paragraph will prove. Examples:

The development strategy resulted in strong economic growth. (Paragraph 3)

Social conditions are Malaysia's greatest vulnerability. (Paragraph 6)

For readers, knowing the idea the paragraph will prove is vital. But the positioning of the sentence that gives them that information matters too. It's easier for readers when they know the main idea before they read the proof. They have a reference point for the rest of the sentences in the paragraph; they can connect each of them to the main idea. When the main idea of the paragraphs is expressed at the end of the paragraph, readers must hold all of the prior sentences in memory until they know what those sentences are trying to prove.

The sample essay has headings that signal the major parts. Think of headings as the equivalent of signposts that direct your readers. The headings in the argument are “Strengths” and “Weaknesses” and the criteria used to prove each side of the evaluation.

The action plan heading marks the boundary between argument and action, which readers appreciate because there is a major difference between the topics. Within the action plan, headings indicate the chronology of actions (Short Term, Long Term).

CHAPTER 11

WRITING ABOUT PROBLEM-DIAGNOSIS SCENARIOS

Problems in cases are the effects of causes such as actions, processes, activities, or forces. Many problem–diagnosis scenarios in cases concern business pathology: a manager performs poorly, a change effort fails to achieve its goals, and a company violates laws and ethics. On the other hand, understanding success is important too. Why did Facebook become the dominant social media platform? Problems can also fall anywhere between the poles of complete success and total failure. Why, for example, did Uber create a global business with an enormous valuation, falter as it experienced multiple setbacks, and then—yet to be determined—either recover or fade away?

At some point, you are probably going to have to write about a problem–diagnosis scenario in a case. The first step is to identify the core scenario and analyze it. Chapter 6 shows you how to do that for problem–diagnosis scenarios and is therefore complementary to this chapter. I recommend that you read it before you read this chapter. On page 241, you will find a Study Guide for Problem–Diagnosis Scenario Cases. When you have a writing assignment that involves a diagnosis, use it to take notes on the case and create an outline. This chapter also includes an example of an essay about a problem–diagnosis scenario case.

HOW TO ORGANIZE A PROBLEM- DIAGNOSIS SCENARIO ESSAY

Essays about problem–diagnosis scenarios have four elements. They:

- Define the problem.
- Summarize the causes of the problem.

- Prove each cause.
- Present an action plan.

Position Statement: Define the Problem

In the essay, you need to define the problem. Without a problem, there is nothing to diagnose. You want to be sure your readers understand the problem before you do anything else in the essay. You can broadly define a problem in a sentence or two and then describe its major characteristics or symptoms. Here's a position statement for a problem–diagnosis essay:

GoXd has struggled to regain traction in the gaming market, posting losses the last three years. The founders have clashed over many issues, key developers have been leaving, and early investors have threatened to bring in a new CEO.

The first sentence states the problem—a gaming company is steadily losing money—and the second sentence specifies major symptoms.

Position Statement: Summarize the Causes of the Problem

In a problem–diagnosis essay, the position statement has two parts: a problem definition and a summary of causes. The second part names the major causes of the problem you have just defined. When you summarize the causes at the beginning of the essay, you're telling readers what to expect and making an implicit promise to argue why you think the causes are responsible for the problem. The summary of causes can be in the same paragraph in which you define the problem or in a separate paragraph that follows the problem definition.

How many causes are sufficient to diagnose a problem? The complex problems featured in cases usually have multiple causes. But a diagnosis that has many causes is hard for readers to grasp and complicates action planning. If you find that you have a list of, say, ten causes, consider whether you can consolidate them. For example, let's say you have several causes related to teams. You could combine them under a broader cause: team performance or team effectiveness.

Prove Each Cause

The most logical way to organize your argument is by cause, from most important to least. Your burden of proof is to show how the causes

contribute to the problem. To do this, you'll need evidence from the case and appropriate analytical concepts and frameworks that you can apply to the evidence. Analytical tools serve two purposes in problem diagnosis. They help you make connections between causes and problems, and they help organize the essay. You'll see how this works in the sample essay.

Causation can be difficult to prove to a high degree of certainty. In science, achieving a consensus about the causes of something can take many years, even generations. The causes of problems that arise as a result of human actions—the kind you'll encounter in cases—can have a significant level of uncertainty, in part because of the large number of variables involved. You should do your best to use case evidence to prove how a cause influences a problem. In the real world, businesspeople have to diagnose problems and take actions that can control or correct them. Waiting for a diagnosis that meets a scientific standard of proof while the problem worsens is a far less preferable option than making a good-faith diagnosis with the evidence available and using it to guide action.

Present an Action Plan

The final section of the essay is the action plan, unless the writing assignment or exam doesn't ask for one. The goal of a problem-diagnosis action plan is to fix the problem. When the problem is positive (e.g., the unexpected success of a new product), the goal is to maintain and extend the positive outcome or result. You can think about the following questions when planning a problem-diagnosis action plan:

- How can the major causes of the problem be fixed or, when the problem is positive, be supported and sustained?
 - What urgent actions will have the greatest impact on the problem?
 - What other short-term actions are necessary but not as urgent?
 - What long-term steps will result in the most impact on the problem?
- Who should be involved in the action steps? (And, possibly, who should not be involved?)
- What could go wrong with the action plan? What actions could avoid or mitigate these problems?

For more information about action plans, see chapter 8.

DEMONSTRATION: A PROBLEM-DIAGNOSIS SCENARIO ESSAY

Please read the case, “Allentown Materials Corporation: The Electronic Products Division (Abridged)” (page 213), and the student essay below. After the essay, you’ll find a discussion of its organization, content, and writing style.

Case: “Allentown Materials Corporation: The Electronic Products Division (Abridged)”

Question: Explain the two-year decline of the Electronic Products Division and suggest measures to reverse it. The word limit is 1,500. (Note: the author used a few words less than the limit.)

Don Rogers faces a problem: The Electronic Products Division’s performance has plunged in the last two years. Its reputation for delivery and service is slipping, morale is low, and employees engage in unending conflict. Many of these issues can be traced to external causes, Rogers’s poor leadership, the dysfunction of EPD teams, a clash of cultures, and the lack of corporate support.

External Causes

EPD’s operating results have plummeted in the last two years. The markets EPD serves shifted rapidly toward lower prices and margins, and competition increased. The highest-margin products are new products, but EPD’s product development is paralyzed. That puts EPD at a major competitive disadvantage and partly explains the operating results.

Rogers’s Poor Leadership

Rogers’s inability to lead is a major cause of EPD’s decline. The division lost its authoritarian leader suddenly at a time of intense external pressure. Rogers acts as a technical manager and doesn’t recognize that EPD is suffering from a leadership vacuum. He has made changes at EPD, but they seem to have had mostly negative effects. Measuring Rogers’s performance against the Kotter model of change management, he has failed in virtually every respect.

- Rogers has done nothing to spread a sense of urgency even though the division is in crisis, both externally and

internally. In fact, by attending product development meetings and behaving as a technical manager focused strictly on details, he is signaling that the situation is normal.

- Leaders need partners to create change, but Rogers hasn't tried to build a coalition. He is often absent from the division, giving him little time to form relationships in EPD. He has made the situation worse by jettisoning experienced managers who might have been allies. There is no evidence that he's tried to build strong relationships at EPD.
- Rogers has no vision for EPD. Bennett didn't need one because he made all of the major decisions. The division clearly needs a unifying vision so that everyone works toward the same goals.
- The division is littered with obstacles, yet Rogers seems oblivious to them. Most critical is the fact that conflicting incentives are impeding work and sharpening existing tension and conflicts.
- Finally, EPD desperately needs quick wins to restore morale and confidence. The New Product Development group is a potential vehicle for them. Rogers seems detached from the purpose and output of the group. He seems to be more concerned with avoiding conflict than with asserting accountability in the face of the ubiquitous blaming and excuses.

The Dysfunction of EPD Teams

EPD teams are contributors to the division's problem. The Google model of team effectiveness helps explain how their lack of performance has reduced EPD's competitiveness.

- There is no evidence that employees feel enough psychological safety to speak out. In product development meetings, participants don't discuss the constant slippage in deadlines and lack of productivity. Just as important, no one offers solutions to the problems that dominate discussions.
- Dependability is a major issue with the teams. Product development continually misses deadlines and no one seems to care. One manager went so far as to say that he knew he

should be held accountable, but knew Rogers wouldn't do that. Dependability is also an issue between the functional groups. All of them believe that they can't depend on the others. For instance, manufacturing thinks that sales is asking the impossible in terms of service and delivery and isn't bringing in orders that manufacturing can make profitably. Sales is frustrated that manufacturing is much more interested in margins than its customers. Marketing doesn't have the experience to carry out its mission.

- EPD has a structure, but it means little because it has no clarity. A major structural flaw encourages conflict: the groups' incentives are in conflict. Manufacturing managers are compensated on the basis of gross margin, while salespeople are compensated on volume. Each works to maximize its incentives, not serve the customer. New Product Development seems to have no incentives unique to its mission. The participants pursue the interests of their respective departments. Finally, some of the division's team leaders work in different locations than their teams.
- None of the teams is having a positive impact. They don't recognize that they're interdependent and can have impact only when they collaborate. This is probably an unfortunate legacy of Bennett. He controlled EPD and probably saw no need to spread the message of collaboration. With the disappearance of centralized control, the impact that seems to matter to each team is getting the other teams to do what they want them to do or justifying their failures by blaming others.

Clash of Cultures

Clashing cultures is another cause of EPD's problem. Rogers is used to the Allentown culture, which is a close-knit family in which hierarchy doesn't matter. People discuss problems face-to-face; there is formal and informal discussion among people at all levels. He behaves as if the Allentown and EPD cultures are the same, not realizing that Bennett shaped EPD's culture to suit his authoritarian style of leadership. He created a hierarchy in which he held all the power and made all the decisions. EPD teams have little

cohesiveness, do not discuss problems, and have a great deal of politics, all of which thwart productivity and problem solving. Rogers's cultural assumption is false, which blinds him to the work he must do to reshape the EPD culture.

Lack of Corporate Support

Rogers isn't personally responsible for all of the leadership failures. Senior management of the corporation is culpable. They promoted Rogers, although he had little management experience, and didn't give him support or training to make the transition. They recommended he move EPD headquarters to corporate headquarters, detaching him from the people he was supposed to be managing.

Action Plan

Rogers needs to change his own priorities, align the groups within the division, and transform the culture from one of conflict to collaboration.

Short Term

- First, Rogers must understand what he needs to do. He needs to shed responsibilities not directly related to the division. A change process needs a full-time leader. Rogers needs to ask for corporate support—first to lower financial targets in the short term to take unnecessary pressure off the division. He also needs to learn much more about the division by changing his tendency to talk; he needs to listen.
- From day one, he should build a sense of urgency in every corner of the division. Employees seem to be completely disconnected from what's happening in the market. He should address all the key people in the division and walk them through the bad business results. He should read a list of issues that need to be solved, putting his leadership at the top of the list, and ask for feedback. He will need to keep repeating this message.
- As part of his effort to mobilize the organization, he needs to recruit a group of allies from the functional teams. Together, they should develop a vision that is simple, inclusive, and

actionable. The vision should express the major traits of the new culture. The group should solicit feedback from everyone, regardless of their position in the EPD organization chart. It's very important to send the message that everyone's opinion matters in the new EPD. When work on it is finished, the vision should be communicated and constantly reinforced.

- Rogers should personally communicate the vision at every facility and let managers know that they need to reinforce it constantly. The vision can channel the frustration many people feel into the energy and commitment to fulfill it.
- Product development needs to be fixed quickly. The old group should be disbanded and a new one created with members from all of the functions who have the needed skills and knowledge. The group should have a clear set of goals and be held accountable. The group needs to meet more frequently, and Rogers should lead it, at least temporarily. He should make everyone responsible for innovation and problem solving.

Long Term

- Rogers should bring all of the EPD functions together in one place. Getting everyone to work together is far more difficult, if not impossible, when functions are split apart.
- Changing EPD's culture can only be accomplished in the long term. However, many of the short-term steps will begin to alter old ways of thinking and acting. Most of the long-term steps will also contribute to cultural transformation. Rogers should emphasize the cultural values of the vision statement on a regular basis.
- The incentives of all EPD groups should be aligned. Currently, manufacturing and sales are at cross-purposes. They should be compatible with the long-term strategy of the division, as expressed in the vision. The members of the product development team should have incentives specific to the goals of the team. As much as possible, compensation and

bonuses should be tied to collaboration and the achievement of divisional goals, such as productivity and profitability.

- The division lacks leadership at all levels, and Rogers should work to develop new leaders. Younger employees not steeped in the old culture may be the best candidates.
- Rogers should seek the continuing support of corporate for changes he needs to make and keep it informed of progress.

DISCUSSION OF THE PROBLEM-DIAGNOSIS SCENARIO ESSAY

The following discussion points out how the writer used the elements for writing about a problem diagnosis.

Position Statement: Define the Problem

In a few words, the writer describes the problem she will be diagnosing:

Don Rogers faces a problem: The Electronic Products Division's performance has plunged in the last two years. Its reputation for delivery and service is slipping, morale is low, and employees engage in unending conflict.

Broadly, the problem is a precipitous decline in the performance of the organization. Keeping the problem definition simple gives your readers a lucid and uncomplicated understanding of what you're diagnosing. The writer follows the definition with a description of major symptoms. A list of all the symptoms would be very long and isn't necessary. The major symptoms are adequate for readers to grasp the problem.

Position Statement: Summarize the Causes of the Problem

After the problem has been defined, the next task of the essay is to summarize the diagnosis—the principal causes of the problem. The writer does this in the last sentence of the first paragraph:

Many of these issues can be traced to external causes, Rogers's poor leadership, the dysfunction of EPD teams, a clash of cultures, and the lack of corporate support.

The sentence has two purposes. First, it gives readers an immediate understanding of the writer's diagnosis. Second, it tells readers how the argument is going to be organized. The writer is implicitly promising to prove the causes in the order she has named them.

The writer covers the first two elements of this problem–diagnosis essay in one modest paragraph. That fact points to the important function of the beginning of an essay. All of us read an essay with the expectation that it will tell us what journey we're about to embark on. The beginning also can enhance the persuasive impact of the essay. We are more likely to take seriously a writer who lays out her thinking clearly and logically.

Prove Each Cause

The writer's diagnosis consists of five causes. That number is large enough to credibly diagnose a large-scale problem and small enough to credibly prove in an essay limited to 1,500 words.

The author first discusses external causes. She states facts from the case and makes an inference—that external events have put EPD at a competitive disadvantage and links that to the declining results of the last two years.

She then turns her attention to internal issues at EPD. This movement from external to internal is common when diagnosing an organizational problem. The large amount of case evidence about Rogers and the departmental teams makes clear that they are contributors to the problem. It also makes sense that the leader of a troubled organization probably has some responsibility for the situation.

To argue that Rogers's leadership is a cause, she uses a well-known framework for successful change management. Her proof is divided into five categories of the framework (the other categories aren't relevant), and she provides case evidence relevant to each one. Her proof is persuasive because it uses an appropriate framework taught in the course the writer was taking, it is grounded in facts, and it shows how thoroughly Rogers has failed.

The writer follows the same pattern used in the leadership section for the argument about EPD teams. She applies an appropriate course framework defining team effectiveness and cites evidence in four relevant categories of the framework. Again, her proof is persuasive because the framework is appropriate for the subject, the evidence she cites is strong, and the argument shows why the teams are dysfunctional in several ways.

The argument concludes with two causes about which there's less evidence in the case. The writer views culture as yet another aspect of

the conflict taking place at EPD. Rogers operates as if the EPD culture were no different than that of corporate headquarters, not realizing that the division has a culture of subservience to a powerful leader. Although the people of EPD don't behave the way he probably expects them to, he behaves as he did at corporate. That blinds him to the need to change the EPD culture to eliminate the ducking of responsibility in the absence of a dominant leader and instead encourages employees to take risks and work collaboratively.

The last of the five causes is one that many writers would miss. It is based entirely on inferences the writer has made from case facts. It's easy to criticize Rogers for his lack of management and leadership experience. Corporate promoted him anyway, possibly because of his technical expertise. But EPD needed a leader with great change management skills to accomplish two goals, one external and one internal: to cope with the radical shift in the competitive environment and with the complicated internal dynamic.

Present an Action Plan

The action plan begins with a statement of goals that is as simple and concise as the essay's statement of the problem and diagnosis. The plan divides steps into short- and long-term actions. The writer's sequencing of action in time reflects incisive thinking about what must be accomplished quickly and what can wait or can only be accomplished later.

The first short-term step of the action plan is linked to the first goal of the action plan: "Rogers needs to change his own priorities." The step suggests how Rogers should do that.

Action plans address the key points of an argument; an action plan for a problem diagnosis should have steps that fix the causes of the problem. The second step of the action plan in the sample essay takes on a cause identified in the argument about Rogers's leadership: create a sense of urgency. Other short-term steps also address the change management failures. The final short-term action is connected to the external causes. EPD is at a competitive disadvantage in the commercial market because the product development process is broken. The last short-term step seeks to fix the process.

The first three long-term steps specify actions that take time. Physically moving a large number of people and modifying an organization's culture and incentives involve different processes, but they all have something in common: they take time to achieve.

PART IV

**CASES FOR
ANALYSIS AND
WRITING**

General Motors: Packard Electric Division

Malaysia in the 1990s (A)

**Allentown Materials Corporation:
The Electronic Products Division (Abridged)**

GENERAL MOTORS: PACKARD ELECTRIC DIVISION

David Schramm, the chief engineer for Cable and Component Design (CCD), glanced at the RIM grommet in his hand and considered the risks and benefits (see the **Appendix** for a glossary of terms). Packard Electric had developed the RIM (Reaction Injection Molded) grommet as a new technology for passing the wires from the engine compartment through the fire wall to the passenger compartment of passenger automobiles.

The Product, Process, and Reliability (PPR) committee, which had the final responsibility for the new product development process, had asked Schramm for his analysis and recommendation as to whether Packard Electric should commit to the RIM grommet for a 1992 model year car. It was already March 1, 1990 and, because of the lead time on the equipment and tooling, the decision had to be made within the week (see **Exhibit 1** for the project schedule). While many of the product development people were very excited by the RIM grommet's possibilities, many of the manufacturing people were dead set against it.

PACKARD ELECTRIC BACKGROUND

The Packard brothers founded the Packard Company in the late 19th century to produce carbon filament lamps and transformers. In 1899, the company moved into the fledgling automobile industry and began to produce automobiles. Eventually the automobile business was sold, but Packard continued to be a supplier of ignition systems. General Motors bought the Packard Company in 1932, and it became the Packard Electric Division of GM.

The management of the Packard Electric division had remained fairly autonomous through the years. In the first 90 years of its existence, Packard had only seven general managers. Although the majority of its sales were to GM divisions, it did receive significant business from other automobile companies.

During the 1980s, GM experienced significant competition—particularly from Japanese imports. GM's share of the U.S. market had dropped from 45% in 1980 to about 34% in 1989. Despite its parent company's problems, Packard Electric's revenues and profitability grew steadily in the 1980s at a rate of 8–9% per year. This growth was attributed to two factors: increasing sales to other automobile manufacturers, and the growing electronic content of automobiles. By 1989, Packard had over \$2 billion in sales, of which 25% was to non-GM customers.

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EXHIBIT 1

RIM project schedule (3/1/90)¹

ID Name	Duration	86				1987				1988				1989				1990				1991			
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
1 RIM feasibility identified	0d	▶																							
2 Begin experimentation	414d	◀																							
3 Investigate materials	370d	▬																							
4 Assemble samples	104d	▬																							
5 Show mock-up to customer	0d	◆																							
6 Component development	250d	▬																							
7 Continue material development	190d	▬																							
8 Perform cycle testing	60d	▬																							
9 Find tooling vendor	220d	▬																							
10 Choose materials	0d	◆																							
11 Order and receive materials	30d	▬																							
12 Status meeting with customer	1d	▬																							
13 Manufacturing development	640d	◀																							
14 Mfg engineering debins effort	0d	◆																							
15 Find molding machine	250d	▬																							
16 Order and receive equipment	110d	▬																							
17 Obtain EPA permits	70d	▬																							
18 Perform tests offsite	60d	▬																							
19 Install + test equipment	90d	▬																							
20 Develop materials handling protocol	150d	▬																							
21 Gain expertise w/RIM equipment	150d	▬																							
22 Establish harness repair procedures	150d	▬																							
23 System development	325d	◀																							
24 Build grommets into harnesses	20d	◆																							
25 Conduct 5 and 5 test	20d	▬																							
26 Prototypes: build + send to customer	15d	▬																							
27 Redesign + test	100d	▬																							
28 Prototypes: build + send to customer	30d	▬																							
29 Redesign + test	30d	▬																							
30 Prepare assembly line	3d	▬																							
31 Transfer equipment to plant	10d	▬																							
32 Pilot run: build + send to customer	25d	▬																							
33 Redesign + test	42d	▬																							
34 Establish quality tests	6d	▬																							
35 Begin product launch	0d	◆																							
36 Build+send production parts to customer	139d	▬																							
37 Achieve full-scale commercial production	0d	◆																							
38 Improve quality/yield	81d	▬																							

Project RIM Grommet
 Date: 3/1/90

Critical Progress Summary
 Noncritical Milestone Rolled Up

¹Early in 1988 the RIM grommet became an official project targeted at a specific customer.

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Packard Electric's Products

Packard Electric executives referred to Packard Electric's business as "power and signal distribution." Packard Electric sold all the electrical cabling and connectors required to interconnect the electrical devices in a vehicle (see **Exhibit 2**). The business was divided into two areas—components and assemblies. The components side involved the individual pieces that made up an automobile's electrical system. Components included cables, connectors, and conduits (sheaths for holding several cables together neatly). Packard Electric sold to the auto companies and GM divisions (such as Delco Electronics and Harrison Radiators) that integrated Packard Electric components into subsystems for automotive assembly plants, as well as to dealers in spare parts.

The assembly products were complete harnesses or subsystems that could be installed directly into an automobile. Typically, Packard Electric would sell the complete wiring system (called a harness) for an automobile which would then be installed by the automobile manufacturer on its final assembly line. Harnesses varied widely in complexity depending on the requirements of the automobile; a complex harness might have many hundred components and nearly a mile of wiring.

The design of harnesses was complicated by the fact that the engineers had to make sure that the harness could be installed in the assembly line as a single unit. Harnesses typically contained bundles of up to 150 wires. These bundles were very stiff and so the engineers had to determine a routing path that not only fit the car's design but also could be packaged neatly for shipment and installation.

The harness installation process was complicated because the cabling spanned the entire length and breadth of the car and connections had to be made at every step of the automobile's assembly process. This installation process consumed from 60 to 90 minutes of the 20 to 30 hours required to complete the final assembly of a typical automobile. As one Packard Electric engineer noted:

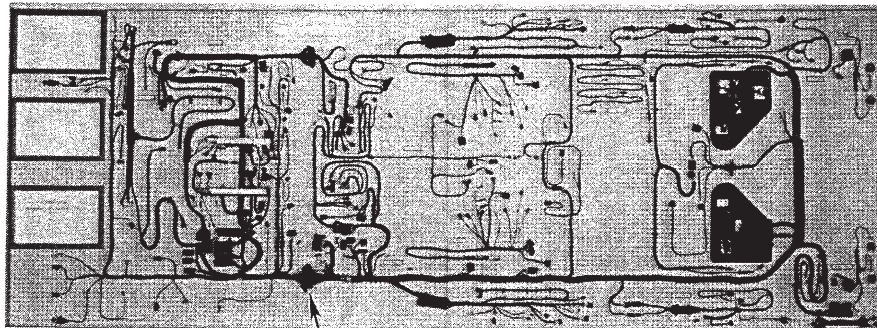
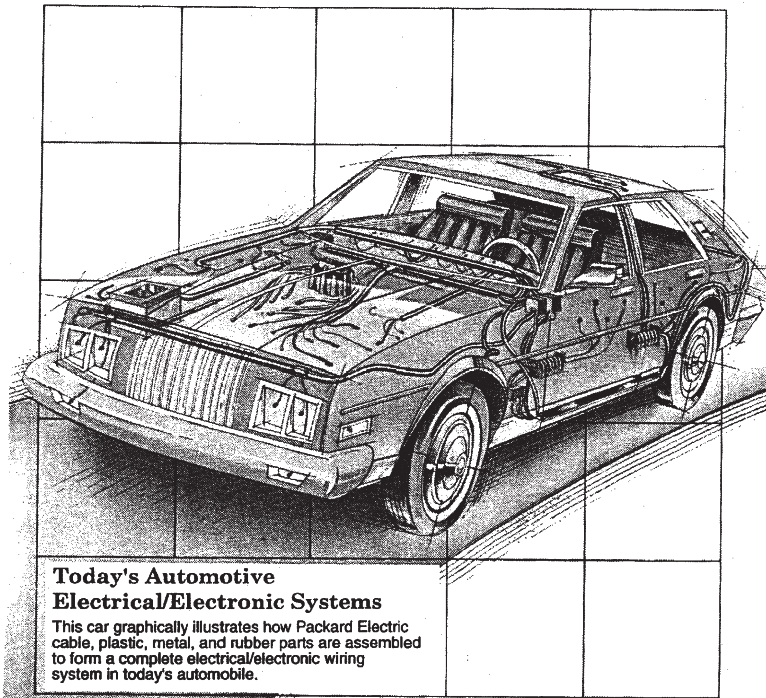
The wiring people get to know everyone in an automotive company, from design through manufacturing. They get involved at every step of the process and must work out thousands of little details. The easiest thing you can change in a car is the wiring, so if there are any production problems, the wiring is the first thing to be changed. What's more, customers don't notice wiring unless there is a problem, and then it's a disaster. Most companies hate wiring because of all the details and the fact that you never get any positive feedback, but at Packard Electric this is what we do and we love it.

Because of the relative ease with which an automotive designer could change a harness, engineering change orders (ECOs) were a major effort at Packard Electric. A harness for even a mature car had an average of two major ECOs, as well as dozens of minor ones, each year. These ECOs ate up a tremendous amount of engineering time; Packard Electric estimated that approximately 50% of the time of its 500 engineers was spent on ECOs. The part proliferation

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EXHIBIT 2

Automobile power and signal distribution system



Grommet

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EXHIBIT 3

Statistics on part (SKU) proliferation and resources devoted to ECOs

Statistics on Stock Keeping Units (SKUs)¹	Application Engineering	Components Engineering
Number of Active SKUs	2,800	45,000
Number of SKUs Added Annually	1,200	2,400
Number of SKUs Deleted Annually	1,100	300
Life span of a Typical SKU	2 years	10 years
Statistics on Engineering Effort		
Percent of Resources Developing New SKUs	40%	65%
Percent of Resources on Engineering Change Orders	60%	35%

¹For Application Engineering, a SKU was an assembled harness ready for installation. For Components Engineering, a SKU was an individual component.

caused by these constant changes was dramatic (see **Exhibit 3**). Because Packard Electric had to be able to fabricate spare parts for any component it had produced, drawings and tooling on over 45,000 parts needed to be maintained. While Schramm had never been able to get any good data on the cost of maintaining these parts, he felt sure that it was significant.

Reducing the cost of the ECOs and part number maintenance were major goals at Packard Electric. In recent years, Packard Electric had become better at forcing change to occur earlier in the initial design process and reducing the subsequent changes per part. The total number of ECOs had remained fairly constant, however, because the complexity of the harnesses (as measured by total length of cable and the number of connectors) was increasing by 6-8% per year in concert with the increasing electrical content of automobiles.

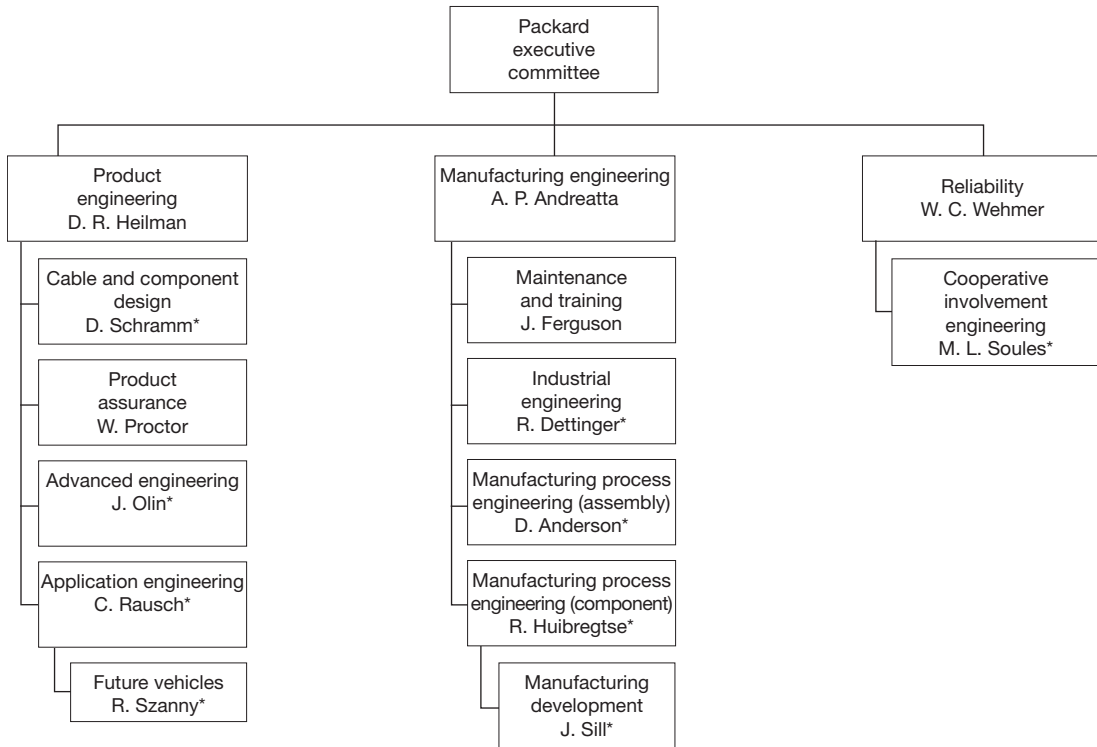
New Product Development Organization

Three functional groups were involved in new product development: *Product Engineering*, *Manufacturing Engineering*, and *Reliability* (see **Exhibit 4**). Product engineering did the product design and engineering; manufacturing engineering was responsible for developing the processes for manufacturing the components, cables, and harnesses. Reliability's mission was to oversee Packard Electric's commitment to quality and excellence in all phases of its business. *Cooperative Involvement Engineering* (CIE) reported to the director of reliability and was designed to provide a direct avenue for customer feedback into manufacturing operations, engineering,

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EXHIBIT 4

Partial Packard Electric product development organization



*Signifies member of the Product, Process, and Reliability (PPR) committee.

and Packard Electric upper management. Its role was that of a customer advocate and it examined any Packard Electric decision involving a customer.

Manufacturing Engineering was divided into several subgroups. Of these, the Manufacturing Process Engineering and Industrial Engineering departments were particularly important during the product development process. Manufacturing Process Engineering made a first pass at developing a manufacturing process to achieve a repeatable process, and then followed up with refinements and documentation. Industrial Engineering had responsibility for training the operators, fitting the process into the plant as a whole, and coordinating the ramp-up of the process.

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Four departments comprised the product engineering function. *Cable and Component Design* (CCD), as its name suggested, was responsible for the design of components (e.g., connectors and pass-through grommets) and cables. The design of cabling included determining the wire gauge required for the application, the number of wire strands to be wound together to make up the cable, and the type of insulation to be used. *Application Engineering* did the design of the harnesses as a whole—determining the number and length of cables, and the type of connectors and other components. Often Application Engineering would need a component that did not exist, which would have to be designed by CCD. The long term product development effort was done by the *Advanced Engineering* group. Finally, *Product Assurance* was responsible for making sure that all product designs met Packard Electric's quality standards.

Both CCD and Application Engineering had a “resident engineer program.” Resident engineers were Packard Electric engineers who were assigned to one customer and who resided at the customer's plant or design center. Resident engineers from CCD interfaced primarily with the design group at the car company's internal or external electrical systems suppliers, while resident application engineers worked with the design group at the car company. The purpose of resident engineers was to help integrate Packard Electric's designs with customer needs. By taking responsibility for more and more of the electrical system design task, Packard Electric relieved the customer of the cost of doing the design and enabled Packard Electric to become more fully integrated into the design process.

The resident engineer program had been very successful, growing to almost 100 engineers. Customers were eager to reduce their engineering overhead. Some had been skeptical at the beginning, believing that resident engineers would make decisions based on what was good for Packard Electric rather than the customer. However, from the outset, Packard Electric had stressed that resident engineers' responsibility was to do what was right for the customer. Packard Electric benefited also because resident engineers were expected to make sure that Packard Electric knew exactly what the customer needed so that Packard Electric could provide the best solution.

The resident engineer program fit a trend whereby automotive assembly plant customers were transferring more and more of the design task to Packard Electric. Carl Rausch, the head of Application Engineering, described the trend:

One way to think about it is to divide the types of customer design specifications you might get into three levels. Level 1 is a broad functional specification where the customer tells you what he or she wants to do, but you design the whole power and signal distribution system. Level 2 is a system specification, where the customer has done a system-wide design but left the choice of components to you. Level 3 is a detailed specification where all that is left to do is manufacture the components to spec and assemble them into the product. We used to get mainly level 3 designs from our customers, but we have pushed towards level 1 specs. Level 1 gives us more freedom and leverage—we can

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integrate our operations much better and develop standard ways to attack problems. This enables us to increase quality and reduce overall system costs.

To integrate the efforts of all these functional departments, the Product, Process, and Reliability (PPR) committee had been formed. This committee consisted of the managers of Cable and Component Design, Application Engineering, Advanced Engineering, Cooperative Involvement Engineering, Manufacturing Development, Manufacturing Process Engineering, and Industrial Engineering. Its purpose was to provide an overall strategy and process for the development effort, guide major technology decisions, and help coordinate activities between functional groups.

THE RIM GROMMET

Much of the cabling in an automobile's harness needed to pass through the "front of dash" area between the engine compartment and the passenger compartment. A grommet (or housing) was used to pass the cables through the fire wall. It had three purposes: (1) to hold the cables in place so that they did not slip and possibly disconnect or wear off their insulation; (2) to dampen engine noise and keep the passenger compartment quiet; and (3) to prevent any water or vapors in the engine compartment from entering the passenger compartment.

Packard Electric's primary grommet, the injectable hardshell grommet or IHG (see **Exhibit 5**), had been developed in the late 1970s. The IHG grommet was essentially a hard plastic shell with a comb into which the cables were placed. The comb served to separate the cables; a plastic resin glue was injected into the comb area to seal it, preventing water from seeping through the grommet. Because the glue was quite viscous, however, it did not seal perfectly around all the wires. The resultant seal, although highly splash resistant, was not completely waterproof. It failed the most strenuous leak test—the static water test—which tested the seal with a column of five inches of water on one side of the seal for five minutes. (This test was commonly called the "five and five" test.)

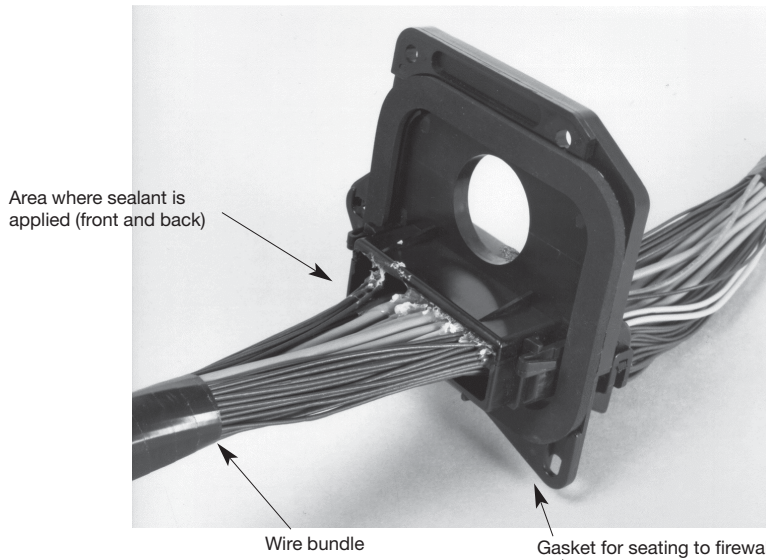
Water in the passenger compartment had been a frequent assembly plant customer complaint in the 1980s, and Packard Electric engineers had searched to find a solution to the problem. In July 1986, Bob McFall, a process engineer at Packard Electric, came up with the idea of using reaction injection molding (RIM) technology to form a grommet around the cables. RIM was a type of injection molding technology that had been around for several years in large-sized applications like automobile door panels and fenders. The principle behind RIM was similar to that of epoxy—when two liquid materials were mixed, they set in less than a minute to form a rubbery solid (see **Exhibit 6**). Before the mixture set, it had a very low viscosity (about the same as that of water), which allowed it to seep between the cables to form an excellent seal.

CASE STUDY

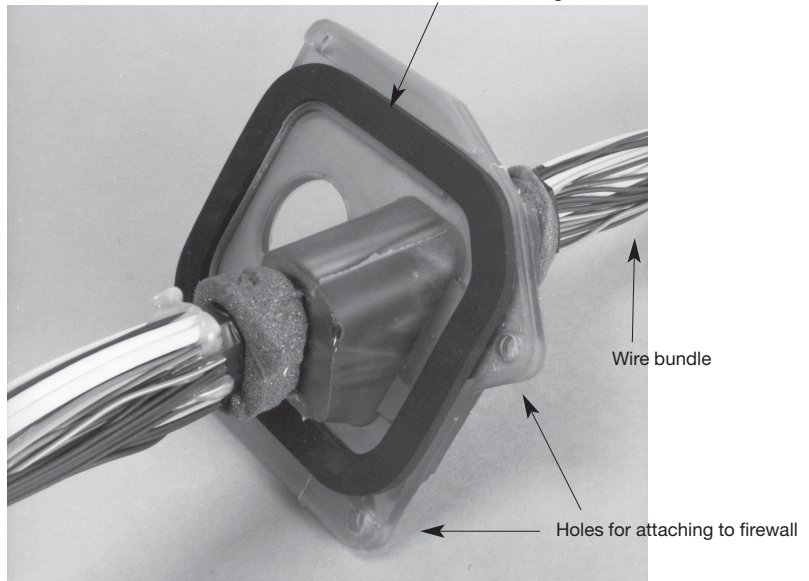
EXHIBIT 5

Contrasting the options: IHG and RIM grommet

IHG



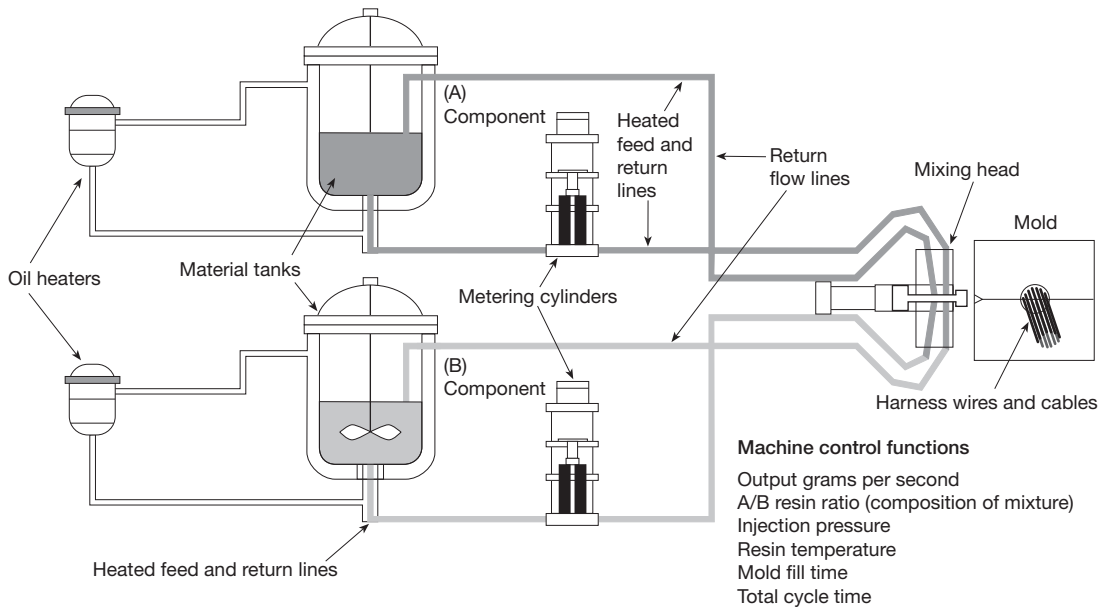
RIM Grommet



CASE STUDY

EXHIBIT 6

Schematic of RIM machine

**DEVELOPMENT OF THE RIM GROMMET**

From July 1986 through the end of 1987, McFall worked on a RIM grommet as a side interest (about 10% of his time), experimenting with several different materials in the Packard Electric laboratory. By early 1988, he had developed several different configurations. During this period, McFall's principal activity had been helping design components for the electrical systems for a high-end automobile customer. He worked closely with Keith Turnbull, Packard's resident engineer, who was on-site full time at that customer's development center and worked with its team planning the 1992 launch of the new vehicle. Knowing that this customer was very concerned about any water leaking into the passenger compartment, McFall brought along one of his mock-ups of a RIM grommet on one of his frequent visits to Turnbull and the customer.

At the car company, both the electrical systems design and packaging team and the assembly process engineering team were excited about the RIM grommet. Turnbull had tracked complaints from the customers' assembly plants and knew that occasional breakage of the brittle

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IHG during assembly and leaks detected at the end of the line during the car's final assembly were perennial problems (see **Exhibit 7** for leak data). He had also heard talk of complaints from dealers' service mechanics through the warranty reporting system. Grommet repair after installation was a major undertaking, whether at the end of the vehicle assembly line (a minimum of two hours of labor at \$45/hour) or in dealer repair shops (more than four hours of labor at a warranty cost of \$35/hour).¹

Hoping to eliminate these problems in future models, the customer (with Turnbull's urging) asked McFall if the grommet would be available for its high-end 1992 model. While McFall did not have the authority to agree to this time table, he felt that it was not unreasonable. Encouraged by the customer's reaction, McFall began to get other groups at Packard Electric involved in the effort. During the next year, CCD expanded its level of effort, and manufacturing engineering began to get involved with a low level of effort. Turnbull monitored the RIM's progress but spent most of his time on other projects until he perceived that "it definitely was a go."

During the next several months, McFall and others worked on several aspects of the RIM project. They worked on material development to find the RIM material that could best withstand the constant cycling between hot and cold without warping or becoming brittle. Eventually, they determined that the RIM grommet would need to be reinforced with an internal steel plate. They also began to look at tooling. Progress was quite slow, however, because all the engineers were involved in other projects which took up most of their time.

In January 1989, the customer requested a status report on the RIM project. They were not pleased with what they heard. The project had not progressed very far, and it was not clear that it would be ready in time for the 1992 model year. Major RIM equipment producers had not yet developed a piece of equipment small enough to be practically used in this application. All known alternatives were expensive, labor intensive, and cumbersome. The customer made it very clear that they wanted the RIM grommet and were planning to use it for the 1992 vehicle to be produced at their Rayville plant. With this increased customer pressure, Packard Electric's level of effort on the RIM project was stepped up considerably, and Turnbull began working more closely with the Packard team.

For a while, it looked like the project would stall for lack of a molding machine that was an appropriate size for the grommet application. Most RIM machines were large and expensive because they were designed to make large, relatively high value, components. It was impossible to justify the cost of such a large machine for experimentation. The project was about to be canceled, when the chief engineer from Application Engineering ran across a small RIM machine at a trade show.

This RIM machine had been developed by an eight-person company. Its cost was only \$80,000, and it was about the right size for Packard Electric's application. In June 1989 the machine was ordered; it arrived in October. Unfortunately, Packard Electric was unable to start testing the machine immediately because it was discovered that, due to the toxicity of

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EXHIBIT 7

Rayville auto assembly plant leak data

MEMORANDUM

To: Bob McFall, Process Engineer
 From: Keith Turnbull, Resident Engineer, Application Engineering
 Date: 12 February 1988

Our wiring harnesses that use the IHG grommet are still as good as any in the industry, but the water leak is a serious issue for Rayville. Your project can get us the inside track on future products if we solve the problem. My contacts working on the new car program continue to ask about progress on the RIM grommet.

The auto assembly plant people gave me some representative water leak data for their current vehicle, which uses our IHG. The harness for 1987 had many ECOs, so it was pretty much a new harness. Each vehicle is given a water spray test at the end of the assembly line; QC then takes leaky vehicles off-line to determine causes. The two tables below tell the story:

RAYVILLE AUTO ASSEMBLY: DAILY WATER LEAKS (1987)¹

	Weeks Since Model Year Launch		
	Week 4	Week 26	Week 48
Doors	57	21	11
Windows	13	2	1
Trunk	7	3	1
Under Dashboard			
Heat/Air Ducts	10	7	6
Steering Column	2	0	0
Wire Harness	30	11	3
Foot Pedals	3	1	0
Total Build Rate/Day	60 cars	300 cars	300 cars

RAYVILLE ASSEMBLY PLANT: QC ASSIGNABLE CAUSES—UNDER DASH WATER LEAKS, WIRING HARNESS, IHG GROMMET (1987)¹

	Weeks Since Model Year Launch		
	Week 4	Week 26	Week 48
Misaligned Grommet	14	2	0
Bent Sheet Metal	7	1	0
Misaligned Screw Holes	5	1	0
Missing or Torn Gasket	2	0	1
Cracked Grommet	7	3	2
No Sealant in Combs	5	1	0
Insufficient Sealant in Combs	8	1	0
Other Leaks Through Wire Bundle	4	7	1
Missing Attachment Screws	6	1	0
Number of Vehicles with Leaks	30 (of 60)	11 (of 300)	3 (of 300)

¹A single vehicle may have multiple defects; data is for a single day's production.

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the RIM materials, EPA permits were required to run the machine. The permits arrived and testing began on the machine in January 1990. During this time, product and process development continued using RIM equipment outside of Packard Electric.

CURRENT STATUS OF THE RIM PROJECT

By the end of February 1990, several RIM grommets had been attached successfully to harnesses of the type required by the high-end customer. While the RIM grommet's leak performance was decidedly superior to the IHG, it was still not sufficient to pass the five and five test. Packard Electric engineers, however, were confident they could improve this performance and pass the test. The customer was also still very much in favor of using the RIM grommet—assuming that it could be produced reliably—despite the fact that the RIM unit cost was significantly more than the IHG (initially \$7.00 compared to \$4.40). **Exhibit 8** contains details of the differential costs.

There were a number of outstanding problems still to be solved with the RIM grommet process. Probably the most critical set involved materials handling. Keeping the two RIM materials separate was absolutely essential. For example, if the drum for “material A” was hooked up to the hose for “material B,” the whole machine could be permanently solidified.

EXHIBIT 8

Packard's operating cost differences between RIM and IHG (estimated January 1990)

Recurring Additional RIM Cost per Vehicle	RIM Grommet vs. IHG	
	1992	1994
Labor	(\$.80)	(\$.80)
Material	\$.65	\$.65
Overhead*	<u>\$2.75</u>	<u>\$.95</u>
Total Additional RIM Cost / Vehicle	\$2.60	\$.80
Additional Investment Required for RIM:	\$350,000	\$450,000

*The overhead rate was based on non-direct charges such as salaries for management, engineering, and other non-direct labor, plant maintenance costs, taxes, and plant depreciation.

Assumptions:

- 1992: 68,000 vehicles per year serviced by two final assembly lines, producing wiring for 300 vehicles per day.
- 1994: 220,000 vehicles per year serviced by four final assembly lines producing wiring for 940 vehicles per day (assumes expansion to customer's other high-end models).
- A full RIM or IHG setup required for each pair of harness assembly lines.
- One redundant (back-up) molding system for each plant.
- No tooling changes required.

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This was not an idle worry; there had been incidents at other companies where a tanker truck had been filled from the wrong tank and the truck, hose, and tank had all been solidified into a block.

An additional problem was that, prior to mixing, “material A” froze at 64° F (18° C); once frozen, it was ruined. It was therefore very important to keep the material well above 64° F. Finally, both materials were very toxic and would require special monitoring. Because of these properties, Packard Electric had to develop and adhere to a series of strict material handling procedures.

A second set of problems revolved around the risks of a failure in the production system. A failure in harness production could completely shut down the customer’s assembly line—which was generally considered the worst thing that could possibly happen. Because all of Packard Electric’s customers required just-in-time delivery and were moving toward shorter and shorter lead times, there was little margin for error. It was exceedingly important that the machine be able to run 16 hours a day without fail. Packard Electric’s limited experience with the system made it difficult to guarantee, as yet, such fail-safe operations.

The third set of problems involved repairing existing harnesses. The act of attaching the RIM grommet entailed some risk to the harness because the mold had to clamp down tightly on the harness to prevent the material from leaking out. If a cable were severed at this point or if the grommet were incompletely filled, the harness would have to be repaired because it was quite valuable (approximately \$180) and could not just be discarded.

In addition to developing a repair process suitable for Packard Electric plants, there also was a need to establish a harness repair process for both auto assembly plants and retail dealers. Because the RIM grommet sealed tightly around the wires, once it had set there was no way to remove a defective cable. The solution would entail feeding an additional cable through a hole drilled in the grommet, but many details still needed to be worked out. Schramm estimated that four engineers would need to work approximately five months to address these issues specific to the RIM grommet.

VIEWS ON THE RIM GROMMET

Schramm knew that the RIM grommet had become a very emotional issue for several people. Product development engineers were generally very positive about it. They felt that in addition to superior leak performance, the RIM grommet offered many other advantages, such as greatly reducing the complexity of the initial feed-through design. Because a comb was required to separate the wires in the IHG, upwards of 150 dimensions had to be specified, compared to only about 30 for the RIM grommet.

The RIM grommet also reduced the variety of feed-through options required to support a broad range of automobile models. Although there was some flexibility in the number of

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wires that could be fit into an IHG comb, it typically was redesigned every two or three years because of changes in the number of cables in the harness. These redesigns were almost as costly as the initial design and typically required approximately 600 hours of engineering (at about \$50 per hour) and about \$13,000 in retooling costs.

In contrast, the RIM grommet was simpler, so that the initial design of a RIM grommet took only about 100 engineering hours (and about \$7000 in tooling costs). The RIM grommet was much more flexible because the number of wires it could pass through the fire wall was limited only by the available area. With the current design, Packard Electric could double the number of wires without redesigning the grommet. Furthermore, this greater flexibility meant that it might be possible to use the same grommet for different model cars—something unheard of with the IHG. While there would probably never be a single grommet for all models, sharing the same RIM grommet across three or four models was a distinct possibility.

An additional advantage lay in the fact that the RIM grommet saved space in the pass-through area. To achieve an acceptable seal, the IHG had to be lengthened every time the number of wires was increased. Currently, the IHG was 80 millimeters longer than the RIM grommet. In addition to taking up scarce space, the IHG became more susceptible to cracking (and leaking) at this length. With a trend towards increasing the number of wires in the harness, this problem was likely to get worse.

Another argument given by engineers favoring the RIM grommet was that it was a new technology. As Packard Electric became more experienced with the technology, it could expect costs to drop significantly. This would affect the RIM grommet and other future RIM projects as well.

Manufacturing engineers generally felt very differently about RIM. They argued that the RIM process would not greatly decrease the leaks. Kitsa Airazas, a manufacturing process engineer, believed that the customer misunderstood the sources of leaks:

The problem is that the [customer's] engineers do the "Dixie Cup" test, which consists of filling a paper Dixie cup with water and pouring it down along the wires. This is equivalent to a static water test but the thing is, you don't submerge your car in water. The grommet really only needs to pass a splash test at the end of the assembly line—which the IHG can do. I think the car company's engineers would understand this if it were explained properly, but they've formed an opinion of IHG capabilities that is difficult to change.

A component design engineer disputed Airazas's view:

Here we go again! Engineering gets a great product and process idea, the customer loves it, and the manufacturing types want to sit on it. If we waited for them, we'd never introduce new technology.

The manufacturing engineers were quick to point out that any sensible engineer would see the obvious process reliability implications of the RIM grommet. The process control

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parameters were several times more complex than with IHG molding. Developing and implementing the strict materials handling procedures required would take a lot of effort and dramatically increase process complexity. Furthermore, even the act of putting the harness on the RIM machine entailed some risk because every time the harness was moved there was danger of damaging it.

The machine itself caused additional concerns. Considering the size of the vendor, it was likely that Packard Electric would be pretty much on its own. Although the IHG and RIM machines had approximately the same capacity (each could service approximately 70,000 harnesses per year), the RIM machine was much larger—requiring approximately 250 square feet compared with 100 for the IHG. At a cost of \$25 per square foot per year, this differential translated to \$3,750 per year per machine. Because the volume estimates for this particular 1992 model application were 50,000 to 70,000 cars per year, a single machine of either type would suffice.

The RIM machine also was much more difficult to move. Portability was quite important because the machine was likely to be moved between plants often. The RIM machine would be moved from the Warren, Ohio plant where process development was being done to Packard Electric's Mississippi plant where the initial manufacturing was expected to be done. From there, it was likely that eventually it would be moved to the final harness assembly location. Ron Szanny, an Application Engineering manager, pointed out an apparent conflict with Packard Electric's strategy:

The RIM grommet is a good product, but I'm not sure how well it fits with Packard Electric's manufacturing strategy. Packard Electric's strategy has been to have high-tech manufacturing of components in the U.S. and then to ship those components to Mexico where the assembly is done in a low-tech fashion. The RIM machine is a relatively high-tech machine, which eventually may be used in Mexico. The language problem and the distance would greatly exacerbate the control problems that are so important for the RIM technology.

Airazas spoke for many of the manufacturing process people when she said:

The car companies and our own management have been stressing the need to reduce costs. We've had travel reductions, hiring freezes, and even layoffs. Now they're talking about spending almost twice as much for a component that complicates the process, increases risk, and may not improve performance. I don't deny that RIM is an important technology for some components, but this is the wrong application for it. Going with the RIM grommet would send a very bad message.

I want to make it clear that I believe we can get the RIM grommet up and running if we want to, but it would require a lot of work, pain, and suffering. I don't think we want to do it because this cost issue will kill us. The car company's design engineers may be excited about it, but everyone knows the car company will eventually want the RIM grommet at the IHG price.

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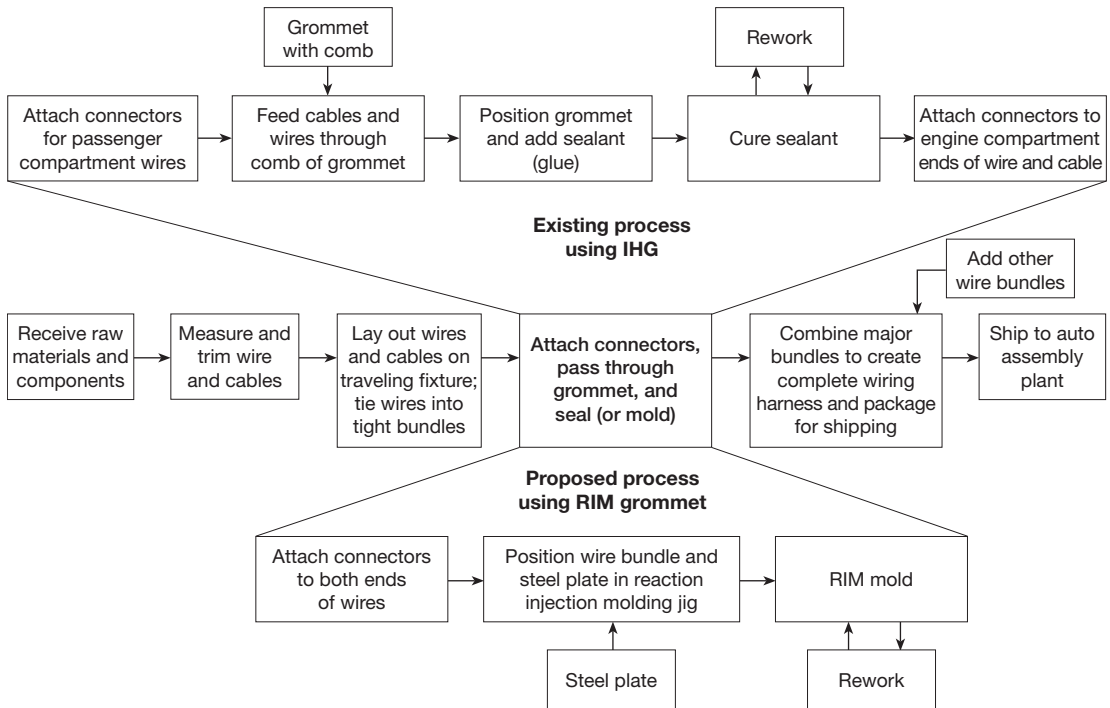
Schramm summed up the feelings of many of his subordinates, the product engineers:

Look, if nothing else, the customer wants RIM and is willing to pay for it. They feel it is very important to maintain their technological leadership and RIM will help. The funny thing is that I was over at our Reinshagen subsidiary recently and saw them experimenting with a RIM grommet for a high-end German auto maker. They didn't ask what it cost, they just said, "if it improves performance, do it."

*Furthermore, there are cost savings that no one takes into account because they are difficult to calculate. For example, with the IHG, every worker along our wiring assembly line has to insert his or her wires and cables into the IHG's comb. With RIM that task is eliminated. I don't know how to calculate that improvement since it is a small amount of labor distributed among a number of workers, but there are some savings there (see **Exhibit 9** for the harness assembly process).*

EXHIBIT 9

Packard's wiring harness assembly process



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SCHRAMM'S OPTIONS

The RIM grommet decision was a good example of the type of situation that Packard Electric wanted to avoid. A major decision had to be made in a hurry and there was still a deep division in the views of the concerned parties. No matter what decision was made, it was very likely that one group or another was going to be faced with a challenge—either to tell the customer “no,” or to develop and implement a process in a compressed time frame. Turnbull’s latest memo reconfirmed that the customer was counting on Packard to resolve problems that were as much its own doing as they were Packard Electric’s (see **Exhibit 10**).

Schramm felt that there were essentially three options he could recommend. The first was to go exclusively with RIM for this customer’s 1992 model. This was the riskiest option because if RIM failed in a major way and impacted the customer’s production line, significant repercussions would be felt by all who bore any responsibility. One way to minimize that risk was to recommend the purchase of two RIM machines, one of which would be used as a backup, but Schramm did not like this one bit. In addition to the added expense, it removed some of the pressure from operations to perfect their processes.

A second option available was “parallel development.” In this case, an IHG could be prepared in parallel with a RIM grommet for this customer’s 1992 requirements. The drawbacks to this plan were many and obvious. Because Packard Electric had been caught up in the design of the RIM grommet, an IHG grommet would need to be designed quickly. Furthermore, it would become a logistical nightmare when the car went into production. Two sets of raw materials would have to be ordered and kept track of, and both the auto plant and Packard Electric’s plant would have two different harnesses to deal with on the assembly line.

The final option was the simplest and least risky. Schramm could recommend that Packard Electric go with the IHG for all 1992 models. He did not like giving up on the new technology, since he personally felt it had many potential benefits. He feared that if RIM were not pursued actively at this point, it would lose momentum and not be applied in 1993 or beyond.

Schramm sighed. He had to present his recommendations to the PPR committee at the end of the week on the RIM grommet; he needed not only to be clear on the RIM versus IHG decision, but also to be prepared to tell them how to restructure the company’s development process to avoid such problems in the future.

NOTE

1. Depending on the cause, these charges would be billed to (or shared by) the car company or Packard Electric.

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EXHIBIT 10

Packard grommet defects and car dealer data

MEMORANDUM

To: David Schramm, Chief Engineer, CCD
 From: Keith Turnbull, Resident Engineer, Application Engineering
 Re: IHG Replacement
 Date: 30 January 1990

I want to reconfirm our customer's plan to replace the IHG with the RIM grommet for their 1992 model car. Cobbled repairs to defective grommets on wiring harnesses are not a viable solution for its upscale car. The customer is looking to get rid of defects from all sources; water leaks are an unnecessary problem.

I checked with the QC manager at our Mexican plant, who believes his quality far exceeds other harness builders even with the IHG grommet. He thinks the Dixie Cup test is helpful when a new harness is launched, but it does not accurately reflect what actually occurs in use. He believes his harnesses do not have splash leaks. His data for the ships to the Rayville auto assembly plant this past year are summarized below. The story is easy to read—he can't make leak-free harnesses even after a year of trying.

Harnesses for Rayville Auto Assembly Plant (1989): Packard's Mexico Harness Assembly Plant Data—QC Assignable Causes, Inspection Prior to Harness Ship [IHG Grommet]

	Weeks Since New Harness Launch*			
	Week 4	Week 13	Week 26	Week 52
Grommet location along bundle (out of tolerance $\pm 1/4"$)	15	3	3	2
Improper distribution of wires in combs	14	7	3	3
Need to replace wires and reseal	3	0	0	1
Excess sealant	8	0	1	0
Nonuniform distribution of sealant	19	4	3	0
Air bubbles in sealant	7	4	4	3
No sealant one side	6	3	1	1
No sealant both sides	4	1	0	0
Leaks through wire bundle (Dixie cup test)	60	94	54	42
Total harness build rate per day	70	285	320	350

*Data for one representative day during the week indicated.

This controversy bothered me enough that I decided to visit two of the largest dealerships in the greater Detroit area to check if they saw wiring harness problems. Their files may not be complete but I did pull leak repair records. I tried to classify the defects according to handwritten comments on repair sheets for the final six months of the model year (weeks 27–52). The service managers don't like it when these under dash leak problems come in—they require hours to repair and the customers complain.

Dealer Repairs: Cause of Under Dash Leaks—IHG Wiring Harness

Cracked grommet	2	Torn gasket	1
Leaks through wires	1	Missing attachment screws	1

I estimate that this sample might represent anywhere from 1–2% of the 1989 model vehicles these dealers sold and now service. I hope that the RIM project will be a hit and allow us to get into several of the other new car programs.

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APPENDIX***Glossary of Terms***

CCD (Cable and Component Design)—A product development department.

CIE (Cooperative Involvement Engineering)—Reporting to director of reliability, provides a direct avenue for customer feedback.

Dash/Dashboard—The console in front of the car driver and front seat passenger that houses the radio, air vents, and so forth.

ECO (Engineering Change Order)—The formal prescriptions for changing the specifications of a product or process.

EPA (Environmental Protection Agency)—The U.S. government agency that monitors and controls the use of toxic substances.

Fire Wall—The metal wall behind the dashboard that separates the passenger and engine compartments.

Gasket—The soft, pliable material between the grommet and fire wall which forms a seal between the metal and grommet.

Grommet—A plastic fixture that holds and supports electrical wires and cables as they pass through the fire wall of a vehicle. The grommet is attached to the metal wall (fire wall) that separates the engine compartment from the passenger compartment.

Harness—The bundle of wires and cables that carry electrical signals and power to and from the car's electronic and electrical components.

IHG (Injectable Hardshell Grommet)—A grommet made from injection molding of polymer pellets. The material is quite rigid and slightly brittle.

Jig—Fixture to hold wire cable bundle and steel plate in the mold while resins are injection molded around them.

PPR (Product, Process, and Reliability Committee)—Manages Packard Electric's new product development processes.

RIM (Reaction Injection Molding)—The injection into a mold of two very fluid resins (polymeric chemicals) that react to form a solid plastic with the consistency of hard rubber.

Sealant—Resins and glues used to join materials and make them impervious to water.

SKU (Stock Keeping Unit)—Each component, subassembly, or assembly that has a unique identification number and identity in Packard Electric's production system.

MALAYSIA IN THE 1990S (A)

In the early autumn of 1991, Mahathir bin Mohamad, the Malaysian prime minister, was preparing to visit New York City, where he was to address the United Nations General Assembly and to meet with American business people interested in investing in Malaysia. During the three decades since its independence, Malaysia had enjoyed rapid economic growth and relative political stability. The prime minister was determined to maintain that stability, in part by realizing even more ambitious economic objectives in the future.

Malaysia's international reputation could be tarnished by reports that the Malaysian government was insufficiently respectful of environmental values. The Western press was especially critical of what it saw as rampant deforestation in the East Malaysian state of Sarawak, in the northern part of the island of Borneo (see **Exhibits 1** and **2**). According to one British environmental group, the rain forest in Sarawak was "being cut down so fast that it will be logged out within eight years."¹ Western environmental groups were lobbying their governments to ban imports of Malaysian timber products and were trying to change Malaysian forestry policy by appealing to international bodies like the International Tropical Timber Organization.

This environmental activism further complicated an already intricate set of economic and political problems surrounding natural resource development in Malaysia. Exports of timber and other natural resources were an important source of foreign exchange. Downstream vertical integration, from the production of natural resource commodities through the manufacture of finished goods, was part of Malaysia's economic growth strategy. Concern over environmental values in Europe and the United States could shrink the demand for Malaysian products and interfere with the government's economic plans. In his address to the UN, as in the formulation of his policies, Prime Minister Mahathir had to consider the connections among his government's ambitious economic strategy, the use of natural resources like forests, and his country's relations with environmentalists and other groups outside Malaysia.

MALAYSIA

During the eighteenth century, the British took control of the colony of Malaya, south of Thailand on the Malay Peninsula; the area had previously been controlled by the Portuguese

Professor Forest Reinhardt prepared this case. It is adapted from "Forest Policy in Malaysia" (HBS case No. 792-099). Copyright © 1997 by the President and Fellows of Harvard College. Harvard Business School case 797-074.

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EXHIBIT 1

Southeast Asia



and then by the Dutch. The British later assumed control of the northern parts of the island of Borneo, four hundred miles east of Malaya across the South China Sea.

During the colonial period, the British brought laborers from India to Malaya to work in the new rubber plantations. And while ethnic Chinese had lived in the region for centuries, immigrants from China came in large numbers during the period of British hegemony to work in the mines and plantations. The Indians and Chinese joined a population that already exhibited considerable ethnic heterogeneity: Islamic Malays inhabited the peninsula, while northern Borneo was populated by numerous indigenous ethnic groups.

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EXHIBIT 2

Area and population

	Total Malaysia	Peninsula	Sarawak	Sabah
Area in thousand square miles	127	50	48	29
Population in millions:				
1980	13.7	11.4	1.3	1.0
1990	18.0	14.7	1.7	1.5
Population density (people per square mile), 1990	142	294	36	49
Population growth rate per year, 1980–1990	2.8%	2.6%	2.5%	3.9%

Note: Numbers may not add to totals because of rounding.

Sources: The Economist Intelligence Unit, “Malaysia, Brunei Country Profile” (September 1991); Government of Malaysia, “Sixth Malaysia Plan 1991–1995” (Kuala Lumpur, 1991).

The entire region, including Malaya, Singapore, Borneo, Sumatra, and Java, fell into Japanese hands during the Second World War. Malaya became independent of British rule in 1957, and in 1963 was joined by Singapore in the new federation called Malaysia. The states of Sarawak and Sabah in northern Borneo also joined the federation. Singapore remained in the federation for only two years, withdrawing in 1965. (The former colony of Malaya is now called “peninsular Malaysia” or “West Malaysia”; Sabah and Sarawak together are called “East Malaysia.”)

Economic Strategy

The new nation of Malaysia was well situated for the production of rubber and was richly endowed with natural resources, particularly timber and tin. Nearly half of Malaysia’s export revenues came from rubber as of 1960, but this figure subsequently fell as the export economy diversified. Tin contributed substantially to export earnings throughout the 1960s and 1970s; after the 1973 oil shock, petroleum and natural gas became important export earners as well. By 1980, fuels accounted for one-fourth of export earnings, and contributions from Petronas, the government-owned oil company, accounted for a similar fraction of total federal government revenue.²

Like many other developing nations, Malaysia pursued a strategy of import substitution during the late 1950s and 1960s, in part at the urging of the World Bank.³ Starting in the late 1960s, the government shifted its focus to the promotion of exports, although the restrictions on imports and the incentives for firms to invest for production to serve the domestic market did not entirely disappear. The Malaysian government used a variety of policy instruments to encourage export-oriented growth. These included the establishment of a dozen free trade

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zones, to which components and raw materials could be imported duty-free; tax holidays and other investment incentives; and lenient technology-sharing requirements.

Low wages and the relatively widespread use of English complemented these policy initiatives in creating an attractive environment for foreign direct investment. Intel, National Semiconductor, and other high-technology firms built assembly plants in West Malaysia during the 1970s and 1980s, and Malaysia's semiconductor industry grew by 20% a year between 1975 and 1985.⁴

At the same time, Malaysia sought to diversify its natural resource portfolio further. Timber production and exports increased steadily during the 1960s and 1970s.⁵ Malaysians also planted vast quantities of oil palm, a tree whose seeds are crushed to produce edible oil; by the late 1980s, palm oil was producing more export revenues than rubber. Both rubber and oil palm trees were grown on plantations after the original forest was cleared away.

In addition to this commodity diversification, Malaysia encouraged its natural resource industries to integrate downstream to escape exposure to commodity price fluctuations. Through tax holidays, other tax incentives, and restrictions on the exports of raw materials, the government encouraged the domestic manufacture of lumber, plywood, wooden moldings, furniture, tires, latex gloves, and similar products to replace the exportation of raw timber and natural rubber. In the late 1980s, however, over half of Malaysia's forest products were still exported in the form of logs, and most of the rubber was exported in raw form rather than in finished products.⁶

Malaysian officials were critical of alternative models of economic development, including not only import substitution but also the model, which they attributed to the World Bank and the International Monetary Fund, that pushed raw material commodity exports as a way of earning foreign currency with which to buy consumer and capital goods from industrialized nations. In Prime Minister Mahathir's view, such a program would lead to overproduction of agricultural and resource commodities and a fall in developing nations' terms of trade. "We are today looking at the ruins of this model in many parts of the world, especially in Africa," he said.⁷

Instead, the Malaysian government planned for continuously increasing exports of manufactured goods, while natural resource commodities gradually declined in relative importance. The government's plans called for a fourfold increase in manufactured exports during the 1990s; during the same period, revenues from export of fuels and tin were expected to fall slightly, and revenues from the export of logs and lumber were projected to drop by 50%.⁸ (**Exhibits 3 through 7** show economic data for Malaysia during the 1980s, including national income, balance of payments, composition of exports, and income distribution; **Exhibit 8** shows comparative economic data for Malaysia and other nations.)

Malaysia's ambitious agenda included the promotion of Proton Saga automobiles, the first of which were produced in 1985. A joint venture between Mitsubishi Motors and a Malaysian

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EXHIBIT 3

Gross Domestic Product (figures in billions of 1978 Malaysian ringgits)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
GDP	44.5	47.6	50.4	53.6	57.7	57.1	57.8	60.9	66.3	72.1	78.9
Private consumption	24.4	25.7	26.5	27.4	29.1	29.2	26.3	26.9	31.2	35.6	39.4
Government consumption	7.8	8.8	9.6	10.0	9.5	9.4	9.5	9.7	10.1	10.9	11.6
Investment	13.9	16.5	17.8	19.2	19.8	17.9	14.6	14.0	16.1	21.2	25.4
Inventory changes	-0.3	-0.5	0.5	0.4	1.0	-1.3	-0.2	0.1	1.2	-0.1	-0.5
Exports	22.6	22.4	24.8	27.9	31.7	31.9	35.6	40.8	45.6	53.9	62.2
Imports	23.9	25.3	28.7	31.3	33.3	30.1	28.1	30.5	38.0	49.4	59.2
Fractions of GDP:											
Private consumption	55%	54%	53%	51%	50%	51%	46%	44%	47%	49%	50%
Government consumption	17	18	19	19	16	16	17	16	15	15	15
Investment	31	35	35	36	34	31	25	23	24	29	32
Inventory changes	-1	-1	1	1	2	-2	0	0	2	0	-1
Exports	51	47	49	52	55	56	62	67	69	75	79
Imports	54	53	57	58	58	53	49	50	57	69	75
Agriculture, forestry, fisheries	23%					21%					19%
Mining and quarrying	10					11					10
Manufacturing	20					20					27
Construction	5					5					4
Electricity, gas, and water	1					2					2
Services	41					43					39

Note: Numbers may not add to totals because of rounding.

Sources: Asian Development Bank, "Key indicators of Developing Asian and Pacific Countries," Volume XXII (1991); The Economist Intelligence Unit, "Malaysia, Brunei Country Profile" (1991).

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EXHIBIT 4

Balance of payments (figures in billions of US\$)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Merchandise exports	\$12.9	\$11.7	\$12.0	\$13.7	\$16.4	\$15.1	\$13.5	\$17.8	\$20.9	\$24.8	\$29.0
Merchandise imports	-10.5	-11.8	-12.7	-13.3	-13.4	-11.6	-10.3	-11.9	-15.3	-20.9	-26.5
Trade balance	2.4	-0.1	-0.8	0.4	3.0	3.6	3.2	5.8	5.5	3.9	2.5
Other goods, services, and income ^a	-2.7	-2.3	-2.8	-3.9	-4.6	-4.2	-3.4	-3.3	-3.9	-4.2	-3.8
Unrequited transfers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1
Current balance	-0.3	-2.4	-3.6	-3.5	-1.7	-0.6	-0.1	2.6	1.8	-0.2	-1.2
Direct investment	0.9	1.3	1.4	1.3	0.8	0.7	0.5	0.4	0.7	1.8	3.1
Portfolio investment	0.0	1.1	1.8	1.4	1.0	0.3	0.6	-0.9	-1.0	-0.2	^b
Other long-term capital	0.1	0.2	0.4	1.3	1.0	0.7	0.2	0.0	-1.0	-0.8	-0.9
Other short-term capital	0.4	0.0	0.1	-0.1	-0.1	0.4	0.0	-1.0	-1.1	0.3	0.4
Errors and omissions	-0.7	-0.6	-0.4	-0.4	-0.9	-0.1	0.5	0.1	0.1	0.2	0.2
Overall balance	0.5	-0.5	-0.3	0.0	0.1	1.3	1.7	1.1	-0.4	1.2	1.6

^aOf the totals shown, net investment income was -\$0.6 billion in 1980, -\$2.2 billion in 1984 and in 1985, and -\$1.8 billion in 1990 (Source: IMF Balance of Payments Statistics, various years).

^bPortfolio investment for 1990 is included in other long-term capital.

Source: Asian Development Bank.

EXHIBIT 5

Composition of exports

As a Fraction of Total	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Rubber	16%	14%	9%	11%	10%	8%	9%	9%	10%	6%	4%
Tin	9	8	5	5	3	4	2	2	2	2	1
Logs and timber	14	13	16	13	10	10	11	13	11	11	9
Palm oil	9	10	10	9	12	10	9	7	8	7	6
Petroleum	24	26	27	24	23	23	15	14	11	12	13
All other ^a	28	29	32	38	43	45	54	55	59	63	67

^a"All other" consists primarily of manufactured goods. It also includes small quantities of food and beverage products.

Source: Asian Development Bank.

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EXHIBIT 6

Economic indicators and government finance

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Unemployment rate	5.6%	4.7%	4.6%	5.2%	5.8%	6.9%	8.3%	8.2%	8.1%	7.1%	6.3%
Exchange rate (M\$/US\$)	2.22	2.24	2.32	2.34	2.43	2.43	2.60	2.49	2.72	2.70	2.70
Change in Consumer Price Index	6.8%	9.7%	5.7%	3.7%	3.6%	0.4%	0.6%	0.8%	2.5%	2.8%	3.1%
Change in M1	15.0%	12.8%	13.3%	7.7%	-0.6%	1.7%	2.8%	13.0%	14.6%	17.6%	14.0%
Federal government finance (in billions of M\$):											
Revenue	\$13.9	\$15.8	\$16.7	\$18.6	\$20.8	\$21.1	\$19.5	\$18.1	\$22.0	\$25.3	\$27.2
Current expenditure	13.7	15.7	16.7	18.4	19.8	20.1	20.1	20.2	21.8	24.8	26.0
Current surplus	0.2	0.1	0.0	0.2	1.0	1.0	-0.6	-2.0	0.2	0.4	1.2
Capital expenditure	7.3	11.1	11.2	9.4	8.1	6.8	7.0	4.1	4.0	5.7	8.0
Overall surplus	-7.1	-11.0	-11.2	-9.2	-7.1	-5.7	-7.5	-6.2	-3.9	-5.3	-6.8
Net domestic borrowing	2.3	4.1	6.0	4.5	3.2	3.6	5.0	8.7	7.9	2.5	3.8
Net foreign borrowing	0.3	3.4	4.9	4.6	3.1	1.0	1.3	-2.4	-3.1	-1.0	-0.8
Other ^a	4.5	3.5	0.2	0.1	0.8	1.2	1.2	-0.1	-0.9	3.8	3.8
Gross domestic product	53.3	57.6	62.6	70.4	79.6	77.5	71.6	79.6	90.6	101.5	115.0
Government financial flows as fraction of GDP											
Current surplus	0.4%	0.2%	0.0%	0.3%	1.3%	1.4%	-0.8%	-2.6%	0.2%	0.4%	1.1%
Overall surplus	-13.3	-19.1	-17.8	-13.0	-8.9	-7.4	-10.5	-7.7	-4.3	-5.2	-5.9
Net foreign borrowing	0.6	5.9	7.8	6.5	3.9	1.2	1.9	-3.1	-3.4	-1.0	-0.7

^aIncludes special receipts, use of cash balances, and asset sales.

Source: Asian Development Bank.

government-owned company designed and made the vehicles, which accounted for the majority of cars sold in Malaysia. Mitsubishi provided much of the engineering and management expertise; it took over management of the Proton plant in 1988, and in the following year Proton recorded its first profit. Pride in the joint venture's technological accomplishments and optimism about the car's market prospects abroad were tempered by doubts about whether automobile manufacture was an appropriate endeavor for Malaysia. These doubts were fueled, in part, by the continued presence of high tariffs on automobile imports. Malaysia, like many other Asian nations, protected a wide range of manufacturing industries as part of its economic development strategy.⁹

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EXHIBIT 7

Average monthly household income by area and ethnic group, 1976 and 1990 (figures in 1990 Malaysian ringgits)

		1976 Value	1976 Percent of National Average	1990 Value	1990 Percent of National Average	CAGR 1976-1990
All Malaysia	Overall	850	100%	1,167	100%	2.3%
	Bumiputra	571	67	829	71	2.7
	Chinese	1,340	158	1,631	140	1.4
	Indians	904	106	1,201	103	2.0
	Other	1,677	197	3,292	282	4.9
Sarawak	Overall	719	85	1,208	104	3.8
	Bumiputra	485	57	932	80	4.8
	Chinese	1,192	140	1,754	150	2.8
	Other	4,905	577	4,235	363	-1.0
Sabah	Overall	864	102	1,148	98	2.1
	Bumiputra	579	68	895	77	3.2
	Chinese	2,005	236	2,242	192	0.8
	Other	2,382	280	2,262	194	-0.4

Sources: Government of Malaysia, "The Second Outline Perspective Plan, 1991-2000" (1991); World Bank, "World Tables 1991"; Asian Development Bank.

Malaysia belonged to the Association of Southeast Asian Nations (ASEAN), whose other members were Brunei, Indonesia, the Philippines, Singapore, and Thailand. ASEAN was established in 1967 as a consultative forum for foreign and security affairs, but turned its attention to economic cooperation after the end of the Vietnam War. For example, as of the early 1990s, Malaysia and its neighbors were beginning to discuss the creation of an ASEAN free trade area, within which trade would be subject to very low tariffs and minimal other restrictions. Some observers thought, however, that an ASEAN free trade area would be unhelpful and possibly counterproductive. "ASEAN countries have stronger economic ties with the rest of the Pacific [e.g., with the US and Japan] than among themselves. . . . ASEAN economies by and large are competitive and not complementary. Under these circumstances, any attempt to increase intra-regional trade through discriminatory tariff reductions would probably result in substantial trade diversion, shifting the sources of imports from low-cost third countries to high-cost partners."¹⁰ (In 1988, US\$5.1 billion of Malaysian merchandise exports went to ASEAN, but \$4.1 billion of this total went to Singapore. The same year, Malaysia sent merchandise exports worth \$4.2 billion to Japan, and \$3.7 billion to the United States.¹¹)

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EXHIBIT 8

Comparative economic and social indicators

	Malaysia	South Korea	Taiwan	Indonesia	Thailand	Philippines	Japan	United States
Area (in square miles)	128,400	38,031	12,456	782,659	198,772	116,000	143,750	3,618,769
Population (millions, 1990)	17.5	43.0	20.5	190.1	55.1	66.1	123.6	250.4
Population density (persons per square mile)	136	1,132	1,650	243	277	570	860	69
Gross national product (in billions of US\$):								
1980	\$22.8	\$83.3	\$65.1	\$54.4	\$47.4	\$37.0	\$2,080.0	\$3,865.0
1988	32.3	168.9	119.4	76.2	58.0	40.4	2,856.0	4,881.0
Per capita GNP (in 1988 US\$):								
1980	\$1,659	\$2,184	\$3,659	\$351	\$1,012	\$727	\$17,810	\$16,970
1988	1,972	3,950	5,968	414	1,063	639	23,290	19,840
Compound annual growth rates, 1980-1988:								
GNP	4.5%	9.2%	7.9%	4.3%	2.6%	1.1%	4.0%	3.0%
Per capita GNP	2.2%	7.7%	6.3%	2.1%	0.6%	-1.6%	3.4%	2.0%
Life expectancy at birth, 1990	67.8	69.6	74.1	60.3	66.8	65.9	79.3	75.6
Telephones per 100 people (mid-1980s)	9.1	25.5	35.9	0.5	1.9	1.5	55.5	76.0
Military expenditures (1988):								
In US\$ millions	\$908	\$7,202	\$6,156	\$1,400	\$1,718	\$680	\$28,870	\$307,700
As percent of GNP	2.8%	4.3%	5.2%	1.8%	3.1%	1.7%	1.0%	6.3%

Source: Statistical Abstract of the United States.

Social Conditions

Malaysian leaders saw rapid economic growth as a precondition for political stability. Many Malaysians and foreign observers regarded ethnic and religious tension as the central problem for Malaysian politicians and, indeed, the central fact of Malaysian life. For example, *The Economist* wrote in 1987 that “Malaysia remains an uneasy racial mix, in which the tensions have perhaps been kept in check only because there has been high employment and more money in the pay packet each year.”¹²

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The Malays, along with members of the numerous indigenous ethnic groups of northern Borneo, were classified by the government as *Bumiputras*, literally “sons of the soil.” Together, these groups made up just over half of the Malaysian population in 1990. The Chinese accounted for about a third of the Malaysian population, and Indians for most of the rest.

The Chinese in Malaysia formed the nucleus of the modern business community under British rule and continued to dominate Malaysian economic activity after independence.¹³ “Malays continued to lag behind in everything from education to commercial enterprises, and their resentment finally erupted into riots in 1969, when the Chinese opposition parties more than doubled their parliamentary seats, threatening Malay political primacy.”¹⁴ Hundreds died during the rioting.

In response, the government instituted its New Economic Policy (NEP), described by the government as “an exercise in social engineering designed to reduce the socio-economic imbalances among ethnic groups and across regions.”¹⁵ The NEP included ethnic quotas “in education, employment, and ownership, as well as a variety of subsidies, licenses, and credit schemes.”¹⁶ The plan called for Malays to increase their share of corporate equity ownership from 1.5% in 1971 to 30% by 1990. “New universities and technical institutions for Malay students were established, and Malay became the official language of university instruction. The Chinese were denied the right to have their own Chinese university. Quotas were established for university admissions, and in the higher civil and diplomatic services a 4 to 1 ratio of Malays to non-Malays was required.”¹⁷

Under the NEP, the disparities among incomes of various ethnic groups had shrunk; the average income of richer Chinese households rose, but that of *Bumiputra* households rose faster. (See **Exhibit 7**.) The NEP did not eradicate income differentials among ethnic groups, and also failed to meet some of its numerical targets, like the 30% equity ownership figure. Still, in 1991 the government declared the NEP an overall success: “Malaysia is . . . one of the very few countries which has, in a span of 20 years, succeeded remarkably well not only in achieving growth but also in addressing more effectively the problems of poverty and economic imbalances.” The government concluded the NEP and instituted the National Development Policy (NDP), which included many of the same objectives but did not contain explicit numerical targets.¹⁸

Under these plans, Chinese-managed companies needed Malay partners to satisfy the corporate ownership requirements. These and related regulations arguably led to new forms of rent-seeking and inefficiency. One Malay entrepreneur said, “My partners are all Chinese; they put up the capital and I demand 51% share. I make sure my investors are with the right faction in politics. I go see government officials, politicians to make sure we get all the licenses and approvals we need. They get to do what they want to do, and I make a lot of money.”¹⁹

Defenders of the NEP claimed that the policy’s critics failed to understand or appreciate the need to redistribute wealth among ethnic groups in order to enhance political stability. “We are sitting on dynamite, and there are plenty of fools who want to shorten the fuse,” said

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a Cabinet minister in 1991. “Our job is to keep them from becoming important actors.” The prime minister constantly stressed the importance of eliminating poverty and redistributing wealth so that each citizen would see himself or herself as having a stake in the Malaysian economy. By investing heavily in education, further modernizing the country’s infrastructure, continuing to attract foreign direct investment, and integrating downstream from natural resources, Malaysia planned to become a “fully developed country” by 2020.

Political Structure

Since its founding, Malaysia’s parliamentary government had been dominated by a coalition of political parties, collectively called the Barisan Nasional (BN). The dominant party within the BN was the United Malays National Organization, or UMNO, whose members were Malay. The BN included several other parties, among them the Malaysian Chinese Association, the Malaysian Indian Congress, and the Gerakan party. In Sarawak, the BN was represented by the Sarawak National Party, the Parti Pesaka Bumiputra Bersatu, the Sarawak United People’s Party, and the Parti Bangsa Dayak Sarawak. For the most part, each of the constituent parties of the BN included members of a single ethnic group.

According to *The Economist*, “Malaysia is not a democracy in the exact sense of that word. Every adult has a vote. The elections are conducted almost fairly. . . . The UMNO coalition may win easily, or not so easily, but it will always win. The opposition can never expect to form a government, although if an opposition party does well it may be invited to join the coalition and take part in the decision making and share the perks of office.”²⁰ The Malaysian style of government, with a broad coalition allocating seats in the legislature and cabinet among its constituent parties, and consistently winning elections, was seen by some as similar to that of Japan.

Economic Performance

Even while its leaders concentrated much of their efforts on income distribution and political stability, Malaysia’s economy grew at 7.6% per year in the 1970s.²¹ The economy stumbled in the mid-1980s, when world prices of petroleum, tin, rubber, and palm oil plummeted simultaneously, but Malaysia ended the decade with three years of real GNP growth averaging 9%. Over the 1980s, the real growth rate was 5.9%. These impressive numbers seemed to support Prime Minister Mahathir’s conviction that Malaysia could become a fully developed country in 30 years, increasing per capita GNP tenfold from its 1990 level of US\$2,300. Other observers, however, worried that Malaysia remained dependent on foreign investors who would seek even lower-cost labor in Thailand, Indonesia, China, or Vietnam as Malaysian wages rose. They also pointed out that the richest fifth of the Malaysian population still had 16 times the income of the poorest fifth, making Malaysia’s income distribution less equal than that of Korea, Taiwan, Singapore, or Indonesia.²²

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THE FOREST PRODUCTS INDUSTRY IN MALAYSIA

In 1991, timber generated more foreign exchange for Malaysia than tin and rubber combined (see **Exhibit 5**). The forest products industry received considerable attention from Malaysian government officials, who saw it as an ideal setting for resource-based industrialization. It also received attention from Western journalists and environmentalists, who saw an ecological horror story involving waste, overharvesting, and destruction of traditional cultures.

Like most other governments in the world, Malaysia's intervened heavily in the forest products industry. Most Malaysian forest land was owned by the states. Although the states of peninsular Malaysia had effectively transferred much of the authority over forestry policy to the federal government, the East Malaysian states of Sabah and Sarawak retained direct control over the exploitation of forest resources within their boundaries.

Timberland Classification and Forestry Planning

Government agencies set harvest levels for timber from their lands through a complicated scheme of land classification and planning. Government officials designated each forested area according to the uses to which it seemed best suited. Most of the government-owned forests were classified as Permanent Forest Estate (PFE). The government forest agencies were required to manage the PFE "with the objective of maximising social, economic and environmental benefits for the Nation and its people in accordance with the principles of sound forest management."²³ Other lands were designated as wildlife preserves or national parks, and timber production there was forbidden. The rest of the government-owned lands were called stateland forests, and were slated either for forestry or for conversion to agricultural use. (**Exhibit 9** shows the acreage in each category in peninsular Malaysia, Sarawak, and Sabah.)

If an area of stateland forest was slated for agricultural use or for plantations of rubber or oil palm trees, then timber harvesting there resulted in the removal of all of the original forest cover (a process called clearcutting). By contrast, statelands not suitable for agriculture were supposed to be harvested in a way that would ensure the ability to reharvest later. So were all of the lands in the PFE. According to Malaysian foresters, natural stands of rain forest in the PFE were harvested selectively. Only three or four trees per acre were harvested. Over the subsequent 25 to 30 years, the largest of the remaining trees would attain the size of the trees that had been harvested. Government planners assumed that after that time had elapsed, the area could be reharvested, again selectively, and the cycle repeated indefinitely.

The Concession System

The government agencies that controlled Malaysian timberland granted logging concessions to private parties. A concession from the forest agency gave the holder the right, contingent on payment of fees and royalties, to harvest a certain amount of timber from a specified tract

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EXHIBIT 9

Land use and timber harvests

	Peninsula	Sarawak	Sabah	Total
Land Use (1988; in millions of acres)				
Natural forest:	15.2	23.3	11.0	49.4
logged	7.5	7.9	7.3	22.6
undisturbed	7.7	15.4	3.7	26.8
Tree crops	8.4	0.7	1.3	10.4
Plantation forests	0.1	0.0	0.1	0.2
All other	<u>8.8</u>	<u>6.5</u>	<u>5.9</u>	<u>21.2</u>
TOTAL	32.5	30.5	18.2	81.2
Administrative Status of Government-owned Lands (in millions of acres)				
Permanent forest estate:	11.7	11.0	8.3	31.0
logged	4.6	4.1	4.9	13.6
undisturbed	7.1	6.9	3.5	17.6
Other state-owned lands:	3.6	9.4	2.3	15.3
logged	3.2	6.1	2.2	11.4
undisturbed	0.4	3.4	0.1	3.9
“Totally protected areas” (national parks and wildlife preserves)	<u>1.5</u>	<u>0.7</u>	<u>1.2</u>	<u>3.4</u>
TOTAL	16.8	21.2	11.8	49.7
Percentage undisturbed	53.6%	52.1%	40.9%	50.1%
Harvests				
	Peninsula	Sarawak	Sabah	
Years	1981–87	1983–90	1984–87	
Annual average area logged (thousands of acres)	578	546	436	
Annual average harvest volume (million cubic meters)	9.35	11.76	N/A	
Average annual acreage logged/total forest acreage	3.8%	2.3%	4.0%	

Note: Numbers may not add to totals due to rounding.

Sources: Malaysian Ministry of Primary Industries, “Forestry in Malaysia” (n.d.); Sarawak Forest Department, “Forestry in Sarawak Malaysia” (1991).

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of timberland over some period of time. Concession holders commonly contracted the actual logging to other firms.

Concessionaires could sell their logs to independent mills or process the timber from the concession lands themselves. In 1990, over 1,000 sawmills and 80 mills producing veneer and plywood competed for raw timber in Malaysia. (In addition, some 650 other timber-processing mills made furniture, parquet flooring, chipboard, fiberboard, wooden molding, matches, pencils, and other wood products.²⁴) Alternatively, concessionaires in Sabah and Sarawak could still sell their logs into export markets.

In the hill forests that comprised most of Sarawak's commercial timberland, government foresters regarded harvesting cycles of about 25 to 30 years as appropriate. Licenses on the PFE in Sarawak had lifetimes of 10 to 15 years, but could be renewed on expiration with the approval of the state forest department. Each concession in the PFE covered an area ranging from 50,000 to 250,000 acres. (By contrast, Rhode Island's area is 776,000 acres.)

The license holders paid royalties to the government based on harvest volumes. Royalties typically ranged from 15% to 30% of the price of the logs, depending on the species; timber royalties accounted for 40% to 45% of the Sarawak state government's total revenues. In addition to the royalties and permits, concessionaires paid relatively small premiums to the government which were earmarked for medical and educational services provided to inhabitants of the rain forest.²⁵

Some Western observers were offended at the manner in which the logging concessions were allocated and operated, charging that it contributed to rapid deforestation. Concessionaires were typically corporate entities whose only substantial asset was the concession itself, and the identities of the people who controlled these concessions were not normally made public. *The Economist* wrote in 1990 that "Sarawak's chief minister hands out logging licenses at his discretion," that the chief minister before 1987 had granted concessions covering over 3 million acres to members of his own family, and that the chief minister's replacement, himself a relative of his predecessor, had allocated another 4 million acres to his family members. The state's tourism and environment minister "exercises no restraint—but then he owns three large concessions himself," *The Economist* wrote.²⁶

Illegal logging by some concessionaires, their contractors, or other parties was held to be a significant problem. With only about 1,600 employees in total, the Sarawak Forest Department policed a rugged, undeveloped, largely roadless area the size of the state of New York. Harvest targets were difficult to enforce. A single log of meranti, the most widely harvested hardwood tree in Sarawak, might contain wood worth two and a half months' income for the average Malaysian.

Malaysian government officials argued that the existing system, however imperfect, was better than any imaginable alternative. "If the actual harvests are 10% to 20% greater than the amounts in the Forest Management Plan, that is an acceptable price to pay for political stability," said one senior minister.

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Encouragement of Downstream Industries

The governments of Malaysia, Sarawak, and Sabah all used subsidies and tax breaks to encourage the local production of lumber, veneer, furniture, and other wood products. At the same time, they restricted entry into wood processing industries: firms required government licenses in order to build new factories. Despite the incentives, the export of logs from Sabah and Sarawak remained the most valuable operation in the Malaysian forest products sector in the early 1990s (see **Exhibit 10**).

EXHIBIT 10

Wood production and exports

A. Wood products production and exports (includes lumber, plywood, and veneer)	W. Malaysia	Sarawak	Sabah	Total		
Production, 1980 (thousands of cubic meters)	6,112	380	646	7,138		
Production, 1990 (thousands of cubic meters)	7,529	781	2,375	10,685		
Exports, 1990 (thousands of cubic meters)	3,642	544	2,391	6,577		
Exports/production, 1990	48%	70%	101%	62%		
Annual growth rate in production, 1980–1990	2.1%	7.5%	3.9%	4.1%		
B. Log production and exports	W. Malaysia	Sarawak	Sabah	Total		
Production, 1980 (thousands of cubic meters)	10,453	8,399	9,063	27,915		
Production, 1990 (thousands of cubic meters)	10,620	18,838	8,445	37,903		
Exports, 1990 (thousands of cubic meters)		15,898	4,564	20,462		
Exports/production, 1990	0%	84%	54%	54%		
Annual growth rate in production, 1980–1990	0.2%	8.4%	–0.7%	3.1%		
C. Destination and value of Malaysian log exports	Japan	Korea	Taiwan	Thailand	All Other	Total
Volume, 1980 (thousands of cubic meters)	8,825	1,689	2,847	—	1,725	15,087
Volume, 1990 (thousands of cubic meters)	10,439	3,118	3,137	765	2,857	20,316
Average value, 1980 (M\$/cubic meter)	200	180	123	NA	114	173
Average value, 1990 (M\$/cubic meter)	222	194	149	208	171	199

Note: Total export figure for 1990 differs slightly between parts B and C of this exhibit due to inconsistencies in original data.

Sources: Malaysian Ministry of Primary Industries, "Statistics on Commodities," pp. 150ff.; Sarawak Forest Department, "Forestry in Sarawak," p. 35.

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In 1985, the Malaysian government banned the export of unprocessed logs from peninsular Malaysia to encourage the domestic processing of wood. By 1991, officials were thinking of raising export duties on lumber and plywood to encourage even further vertical integration. For similar reasons, the Malaysian federal government encouraged the restrictions of log exports from Sabah and Sarawak, but log exports from East Malaysia continued in the early 1990s.

Downstream integration into lumber, plywood, or furniture would free Malaysia from the alleged collusion of the Japanese trading firms who purchased most of the logs, as well as from the usual tyranny of volatile commodity prices. Downstream integration would increase employment in the forest products sector; it arguably would reduce the pressure on the forests at the same time, since the same amount of timber would produce more jobs and export revenues. (In Sarawak, timber and related industries were said to employ about 75,000 people, or close to a tenth of the market labor force.)

The Sarawak state government rebated 80% of the royalties on logs if the logs were processed within the state boundaries. In addition, the federal Malaysian government offered generous tax breaks for companies investing in wood processing factories. Companies with “pioneer status,” which included most forest products companies in Sarawak, received five-year exemptions from income tax, and investment tax credits further reduced the federal tax burden for new wood processing firms.²⁷

Environmental Concerns

According to a widely cited report by the World Commission on Environment and Development (WCED), about 2.25 billion acres of tropical rain forest still existed worldwide in the 1980s. By that time, however, human activity had destroyed the forest cover on another 1.5 billion to 1.75 billion acres. Each year, more than 25 million acres of tropical rain forest were eliminated, and another 25 million acres were seriously disrupted.²⁸

For several reasons, this loss of tropical rain forest was deeply disturbing to environmentalists. At the local level, loss of forest cover could increase erosion, soil loss, and the chance of catastrophic floods. Tropical deforestation also accelerated the extinction of plant and animal species. Although they covered only 6% of Earth’s land area, tropical rain forests contained at least half, and possibly up to 90%, of the world’s species of plants and animals. Many biologists believed that the human-caused rate of species extinction was hundreds or thousands of times higher than the background rate.²⁹

Loss of these species, most of which had been poorly studied and many of which probably were never identified, meant that any potential they might have for human development went untapped. Many wild species had already proven useful in producing medicines, in creating new strains of agricultural crops, or in contributing “gums, oils, resins, dyes, tannins, vegetable fats and waxes, insecticides, and many other compounds.”³⁰ Unknown numbers of other species might prove similarly useful.

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Loss of forest cover was also thought to contribute to increases in global average temperature caused by the buildup of carbon dioxide and other gases in the earth's atmosphere. Different studies suggested that between 5% and 15% of global climate change might be due to deforestation.³¹

Although Malaysia contained no more than 2% to 3% of the world's tropical forests, the thick forests—rich in biological resources—that covered the hills of northern Borneo received particular attention from environmental groups and the Western press, and were the center of especially heated controversy.

Reliable data on timber harvesting and forest loss were difficult to obtain in Malaysia and in most other tropical countries. It appeared, though, that logging in Malaysia had affected between 2% and 4% of the country's forested area annually during the 1980s (see **Exhibit 9**). Western environmental groups argued that the amounts of timber harvested exceeded the growth of the remaining timber, so that the forests were being “mined.” This raised questions about economic welfare in the long run as timber harvests declined.³²

Malaysian forestry officials disagreed. First, they argued that the environmentalists failed to realize that logging an acre of rain forest did not mean destroying it; trees would be left standing on the site, and the same acre could be logged again 25 or 30 years later. Second, while acknowledging that timber harvests from Malaysia as a whole were greater than the sustainable level, the officials thought it made no sense to include forests slated for conversion to agricultural use in calculating the sustainable yield.

Further, Malaysian government officials felt that small-scale, temporary conversion to agriculture was a bigger problem than commercial logging. Rural people would clear and burn small patches of jungle and plant crops, moving on to clear and burn other areas a few years later. According to the Sarawak forest department, a state agency, shifting cultivation was responsible for much of the forest loss in Sarawak.³³

Some Western groups also argued that logging violated the rights of self-determination of indigenous people in the Borneo jungle. Attention centered on the Penans, nomadic forest dwellers whose way of life was threatened by logging; their number was estimated at 9,000 by the Singaporean and Malaysian British Society (SIMBA), although Malaysian government officials said that only 300 still pursued a traditional nomadic way of life. When indigenous people tried to stop the logging by burning bridges or blocking roads, they were prosecuted and jailed.³⁴

POSSIBLE CHANGES IN FOREST MANAGEMENT

The ITTO Report and Its Recommendations

In 1989 and 1990, the governments of Sarawak and Malaysia invited the International Tropical Timber Organization (ITTO) to send a group of observers to Sarawak to visit the timberlands, assess forestry practices, and present some recommendations. The ITTO, whose

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member governments were exporters and consumers of tropical forest products, worked with both environmental groups and trade associations. Its purpose was “to strike a balance between utilization and conservation of tropical forest resources through enhanced benefits to promote sustainable management of such forests.”³⁵

The mission released its report to the ITTO in May 1990. Its central recommendation was that the timber harvest in Sarawak be reduced to 9.2 million cubic meters per year: 6.3 million cubic meters per year from the PFE, and another 2.9 million from the statelands that apparently were not needed for conversion to agriculture or plantations.³⁶ The mission based this recommendation on its own calculation of the sustainable annual yield from the PFE and the stateland forests in Sarawak, after excluding the parts of the forest that it thought were too steep to be logged in an environmentally acceptable manner. According to foresters in the Sarawak government, harvests in the state in 1990 totaled about 18 million cubic meters, or nearly twice the total that the ITTO recommended. About one-third of this total came from land clearing on the statelands, and the rest from the PFE. The Sarawak government stated formally that it “accepts in principle the recommendations in the ITTO Mission Report and will implement the recommendations based on available resources and with the assistance and cooperation of the international community.”³⁷

Controversy persisted after the ITTO report was released. One of the mission’s main recommendations was that “the staff of the Forest Department must be comprehensively strengthened.”³⁸ A year and a half after the mission’s completion, however, practically no new foresters had been hired. The Sarawak government needed permission from the federal government to increase its employment; officials in the Forest Department said they were anxious to hire at least 400 people, but that officials in Kuala Lumpur were sitting on the necessary paperwork. Federal officials countered that responsibility for the hiring really rested in the Sarawak capital of Kuching. Meanwhile, harvests continued at a rate well above the ITTO recommendations.

Other Measures

Many observers, including the ITTO mission, suggested that the Sarawak and Malaysia governments increase the size of their Totally Protected Areas (national parks and wildlife preserves). Sarawak had agreed to quadruple the acreage of those areas. This meant management headaches in the short run, as people were displaced from areas where they had traditionally used the forest, and could also mean forgone revenues in the long term. In response, some westerners suggested that, since the Sarawak rain forests were in effect a globally valuable asset, the inhabitants of Borneo should somehow be compensated for maintaining them in a pristine state.

A Western Timber Ban?

Less-patient environmentalists suggested that Western nations ban imports of forest products from Malaysia until the government reformed its forest policies.³⁹ In response, Malaysians pointed out that most of the furniture they exported to the United States and Europe originated

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in West Malaysia, while all of the log exports came from East Malaysia. Further, Malaysia's biggest log customers were in the Far East. It seemed unlikely that they would join any sort of boycott of Malaysian wood.

Many Malaysians saw behind the proposed timber trade restrictions the sinister hand of the Western softwood timber producers. Government officials and industry leaders alike spoke of alliances between the Western environmental groups and the companies that produce lumber and plywood in North America and Scandinavia. "They are worried that they will lose market share to tropical timber, so they fund the environmental groups to engage in anti-tropical hardwood campaigns," said one official. And Prime Minister Mahathir's own speechwriters had written in the draft of the address he was to give before the United Nations in September 1991 that "the idea that the tropical forests can be saved only by boycotting tropical timber smacks more of economic arm-twisting than a real desire to save the forests. . . . This is a ploy to keep us poor."⁴⁰

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23. Ministry of Primary Industries Malaysia, "Forestry in Malaysia" (n.d.), p. 6.
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26. "The dwindling forest beyond Long San," *The Economist* (August 18, 1990), p. 23.
27. Ministry of Primary Industries Malaysia, "Profile: Malaysia's Primary Commodities," p. 1.
28. World Commission on Environment and Development, *Our Common Future* [also known as "the Brundtland report"; hereinafter cited as "WCED"] (Oxford: Oxford U.P., 1987), p. 151.
29. WCED, p. 150.
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33. Sarawak Forest Department, "Forestry in Sarawak" (Kuching, 1991), p. 8; see also Ministry of Primary Industries Malaysia, "Profile: Malaysia's Primary Commodities," p. 138.
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ALLENTOWN MATERIALS CORPORATION: THE ELECTRONIC PRODUCTS DIVISION (ABRIDGED)

In July 1992, Don Rogers took a moment to reflect on the state of his organization. He had become the Vice President and General Manager of the Electronic Products Division (EPD) at Allentown Materials Corporation following his predecessor's untimely death two years before. The EPD faced a number of problems, and Rogers was not sure what he needed to do. He felt increasing pressure from headquarters. EPD was expected to continue to meet the corporation's 10% average annual growth rate and aggressive profit targets, despite increased competition in the electronic components industry. The division's performance had declined in 1991 and 1992 (See **Exhibit 1** for EPD's operating data) and most component manufacturers anticipated that they were competing for a shrinking total market. In addition, EPD's reputation for delivery and service had slipped, and their number of missed commitments was very high. Rogers commented:

I have had some difficult times in my division over the past two years. Our business is becoming fiercely competitive and this has led to a decrease in sales. To deal with the downturn in business we have reduced the number of people and expenses sharply. This has been painful, but I think

EXHIBIT 1

EDP sales and operating income, 1985–1992 (\$ thousands)

	1985	1986	1987	1988	1989	1990	1991	1992
Sales	\$54,518	\$93,177	\$93,852	\$85,854	\$108,496	\$113,780	\$102,206	\$102,986
Operating income*	12,902	23,349	24,964	12,846	21,746	17,868	6,680	6,745

*Income margin equals less manufacturing, administrative, and sales expenses.

Source: Company records.

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these actions have stemmed the tide. We are in control again, but the business continues to be very competitive. Morale is low; there is a lot of conflict between groups that we can not seem to resolve. There is a lack of mutual confidence and trust. The organization is just not pulling together and the lack of coordination is affecting our ability to develop new products. Most of my key people believe that we are having conflicts because business is bad. They say that if business would only get better we will stop crabbing at each other. Frankly, I am not sure if they are right. The conflicts might be due to the pressures we are under but more likely they indicate a more fundamental problem. I need to determine if the conflict between groups is serious, so I can decide what I should do about it.

ALLENTOWN MATERIALS CORPORATION

Allentown Materials Corporation, a leading manufacturer of specialty glass, was established in Allentown, Pennsylvania, in the late-1800s. The corporation's growth and reputation were based on its ability to invent and manufacture new glass products, and it had major businesses in a number of different glass and ceramic markets. In 1992, Allentown was in a strong financial and profit position. Its investment in R&D as a percent of sales was quite significant in comparison with that of other companies in industry. The company had established the first industrial research laboratory in the early 1900s, the Technical Staffs Division (R&D), which conducted basic research and product and process research in glass and related technologies. Strength in manufacturing contributed to Allentown's technological edge. Until now, Allentown had always been in the enviable position of growing profitably without substantial competitive pressures. Patents, technological know-how in manufacturing, and the requirement of substantial capital investment made it difficult for others to offer serious threats.

Corporate organization Allentown's corporate organization reflected the close link between its growth and its technology. R&D was highly regarded by top management. Its vice president reported directly to the chairman of the board. Next to R&D, Allentown's strongest functional area was manufacturing. Many considered it to be the function through which one could rise to the top, as many of the company's top executives had been promoted from the ranks of manufacturing. To foster a strong manufacturing orientation, the company had developed a control system in which plants were viewed as profit centers. Financial results were reported every 28 days and were reviewed 13 times a year. These periodic reviews were conducted at all levels of the corporation.

For many years all of Allentown's operations were based in its headquarters, but as the company grew, plants and sales offices were established throughout the world. In 1992, all but two of the corporation's eight line divisions had their headquarters in Allentown. Thus, most divisions could discuss business problems on a face-to-face basis; the corporation operated like a relatively close-knit family. People saw each other frequently on Allentown's premises, on the streets of the

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town, and on social occasions. People at all levels and from diverse parts of the corporation interacted informally. It would not be uncommon for top-level corporate officers to meet divisional personnel in the main office building and to engage them in informal discussions about the state of their business—asking about orders, shipments, sales, and profits for the period.

THE EPD AND ITS HISTORY

The Electronic Products Division (EPD) manufactured high-quality electronic components (resistors and capacitors) for several markets. More than half of the EPD's 1992 sales were to original equipment manufacturers (OEMs) who bought resistors and capacitors in large volume for use in a variety of their products. The remainder of the division's sales were to distributors who resold the components in smaller quantities. Much like other Allentown businesses, the components business grew due to the EPD's unique technological capabilities. Many of their competitively unique new products were invented in response to needs from OEMs who wanted the EPD to apply its research and development strength to meet their stringent component specifications.

The Component Market Through the mid-1980s, the space program and the military's reliance on missile defense systems created demand for highly reliable components, since failure threatened the integrity of very sophisticated and expensive equipment. The government was willing to pay premium prices for components that met its very strict specifications, and Allentown's knowledge base enabled it to serve this market well.

In the late 1980s, the nature of EPD's business began to shift. As the cold war began to ebb and the military market declined, the division concentrated more of its efforts in commercial markets. For example, the personal computer (PC) market was exploding. The growing market in telecommunications devices, such as cellular telephones, personal pagers (beepers), facsimile machines, and other consumer electronics products also provided new opportunities for the EPD components. Using its unique technological capabilities in product development and manufacturing, the EPD was able to enter these new markets and quickly establish a major position in them. In response to the high-volume demands of these markets, the EPD built a plant in Evans, Georgia in 1990.

By 1992, 60% of the EPD's sales were to the computer, telecommunications and consumer electronics markets. The EPD's management felt continual pressure to extend existing product lines as OEMs developed new end-use products for their growing markets. Responding to customers' unique needs with new product extensions was a competitive necessity because new products commanded higher prices in their early stages of development and thereby offered an opportunity for growth. At the same time that these commercial markets were growing, buyers were becoming more price sensitive. This prompted increased and often fierce price competition among component suppliers.

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Competition hinged primarily on price but quality and service were also important. Customers were giving special consideration to manufacturers that could assure short delivery lead times (usually no more than four weeks), but efficiency in manufacturing operations demanded longer lead times. Stricter quality standards were also being demanded because poor quality often could shut down an OEM's production operation. As suppliers competed for large-volume contracts from major OEMs, prices fell sharply, putting pressure on costs. To Rogers and his managers, it appeared as if the EPD was becoming a commodity business.

The EPD's future in this dynamic and uncertain environment looked bleak indeed. It was the subject of much discussion and controversy in the division. Volume could always be increased by taking low-price business, but this reduced profitability. Most people within EPD looked to new products as a major source of both new volume and profits. Some managers wondered whether their division could meet Allentown's high expectations for profitability and growth, or even survive.

Management History: Joe Bennett's legacy Before 1990, Joe Bennett headed the EPD. An entrepreneur who sought to get his division into new businesses, Bennett had been in charge of the EPD since its infancy and nurtured it into a significant business for Allentown. Under Bennett's leadership, the EPD was one of the two Allentown divisions with headquarters outside Allentown, Pennsylvania. This was a source of some pride to Bennett. He fostered the desire to grow and a spirit of experimentation at the EPD. For example, Bennett seized one opportunity for growth by personally initiating research into a new technology that sought to bridge components and integrated circuits. Scott Allen, the division's controller until 1990, felt Bennett exemplified the division's strengths:

We always tried new things. We always experimented. We set a fast pace. There was a feeling of urgency and commitment and dissatisfaction with the status quo. As an example, we were 14 steps ahead in computer applications. This stemmed from Bennett and the dynamic industry we were in.

Bennett, who was 48 years old when he died, was a big man with a quick and creative mind. He ran the division almost single-handedly. For example, both the Barnett (capacitors) and the Hopewell (resistors) plants had separate on-site market development and product development groups. The managers of all these groups reported to Bennett. Many of the key decisions were made by him and none were made without his knowledge and approval. People respected and also feared Bennett. A product development manager for capacitors described Bennett and his style:

Joe was very authoritarian with me and others. As a result, the most successful people working for Bennett were political and manipulative. People did not extend themselves very much to disagree with him.

Bennett had a significant impact on our organization; our managerial styles came to reflect his. We were all more authoritarian than we might otherwise have been. I was less willing to let my

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people make mistakes even though I thought it was important that people learn from their mistakes. The pressure and unrealistic standards were transmitted down to people throughout the organization. This resulted in our commitments often being unrealistic.

There was little group activity and decision making by the top team except where there was a specific problem. It was not a natural group. We were never together except at formal managers' meetings. There was no cohesiveness in the group reporting to Bennett.

Bennett was a man of paradoxes. Although most people felt he was extremely directive in his management style, he was intensely interested in the field of organizational behavior and its applications to management. In 1989, Bennett initiated a division-wide management and organization development program. The program was to include several phases: an examination of individual management styles, group effectiveness, interfunctional coordination, and organization-wide problems. In all phases, action plans for improvement were to be developed.

DON ROGERS TAKES CHARGE

When Rogers took charge in June 1990, he inherited an organization which employed 900 people, 175 of whom were salaried managerial and professional employees. It had three plants and four sales districts and, with the exception of some R&D support from Allentown's Technical Staff Division, was a self-contained multifunction organization. Reporting to Don Rogers was a controller, a manufacturing manager, a marketing manager, a sales manager, and a product development manager. (**Exhibits 2 & 3** provide information about the EPD's organization.)

Rogers' managerial background Prior to 1990, Rogers had been the director of electronic materials research in Allentown's Technical Staffs Division. His promotion to Vice President and General Manager was considered unusual because he lacked line experience. However, most of his colleagues realized that his knowledge and background were relevant to the EPD's business and he had a number of qualities that indicated his potential for a top management position. As electronic materials research director, Rogers had been responsible for all the research and development work going on in Technical Staffs. He was therefore knowledgeable about EPD's technology. He often sat in on the EPD's meetings and had a general knowledge of the electronics business.

Rogers also had considerable personal assets. He was very bright, quick thinking, and could express himself extremely well in both small and large groups. EPD managers were impressed by his capacity to grasp a wide variety of complex problems ranging from technical to managerial. He was always very pleasant and friendly and could get people to be open with him, since he was also ready to share information and his own thoughts. In fact, people were often surprised by the things he was willing to reveal and discuss. He also involved people in problems and consulted them on decisions.

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EXHIBIT 2

Background of EPD executives

Don Rogers—vice president and general manager, Electronic Products Division, 40 years old. He received a Ph.D. in chemistry from the University of Cincinnati, a master's in chemistry from St. Johns University, and a B.S. from Queens College in New York City. He joined Allentown in 1981 as a chemist in its Technical Staffs Division (R&D). In 1985 he became manager of electronic research and in 1988 director of electronic materials research in the same division. He was appointed the EPD's division manager in June 1990.

Bill Lee—marketing manager, 39 years old. He received a B.S. in chemical engineering from Rutgers. He joined Allentown Materials in 1974 as a staff engineer, and subsequently held several engineering and supervisory positions in glass plants. Following an assignment in corporate market planning, he became manager of marketing in the EPD in 1991.

Ben Smith—manufacturing manager, 43 years old. He received an engineering degree from Clarkson College. He became EPD's manufacturing manager in 1991 following numerous manufacturing positions in Allentown's Computer Products and Technical Products Divisions. He had started as a plant engineer and had also been a department supervisor, production superintendent, and plant manager in several glass plants in these divisions. Just before moving to the EPD he had been manufacturing manager in the Laboratory Glassware Division.

Ted Moss—product development manager, 45 years old. After receiving a degree in mechanical engineering from City College in New York City, he joined Allentown Materials Corporation as a staff engineer. After five years in other divisions he joined EPD in its early infancy. He served as a project engineer first and then held several managerial positions in product and process development. He became manager of product development for the EPD in 1992.

Carolyn Green—division controller, 31 years old. She joined Allentown Materials Corporation in 1986 after completing a B.S. in industrial administration at Yale, working in a major accounting firm, and completing an MBA at the Harvard Business School. Before joining the EPD as its division controller in 1991, she served in a variety of plant accounting positions in Allentown's Computer Products and Display Panel Products Divisions.

Jack Simon—sales manager, 34 years old. He went to St. Bonaventure University, where he received a degree in sociology. He joined Allentown in 1988 as a salesman. All of his experience with Allentown was with the EPD. He was a district sales manager when promoted to the division's sales manager in 1991.

Despite these very positive attributes and managers' genuine liking and respect for Rogers, some aspects of his management style attracted criticism. His personality and his superior intellectual capabilities almost always assured that he was a dominant force in meetings. Some also had questions about how comfortable he was with conflict and how much leadership he took in difficult situations. Some of the EPD's managers described Rogers' style:

Rogers does not listen too well. He interrupts, which prevents him from hearing others' opinions and makes it seem as if he really does not want criticism. What's more, he has been too soft on me. He should be holding me to my goals. I have not met some of these goals and he should be climbing all over me. Furthermore, you get the same record back from him regardless of what you say. It is safe to be open with him and tell him what's on your mind, but he does not always hear what you are saying.

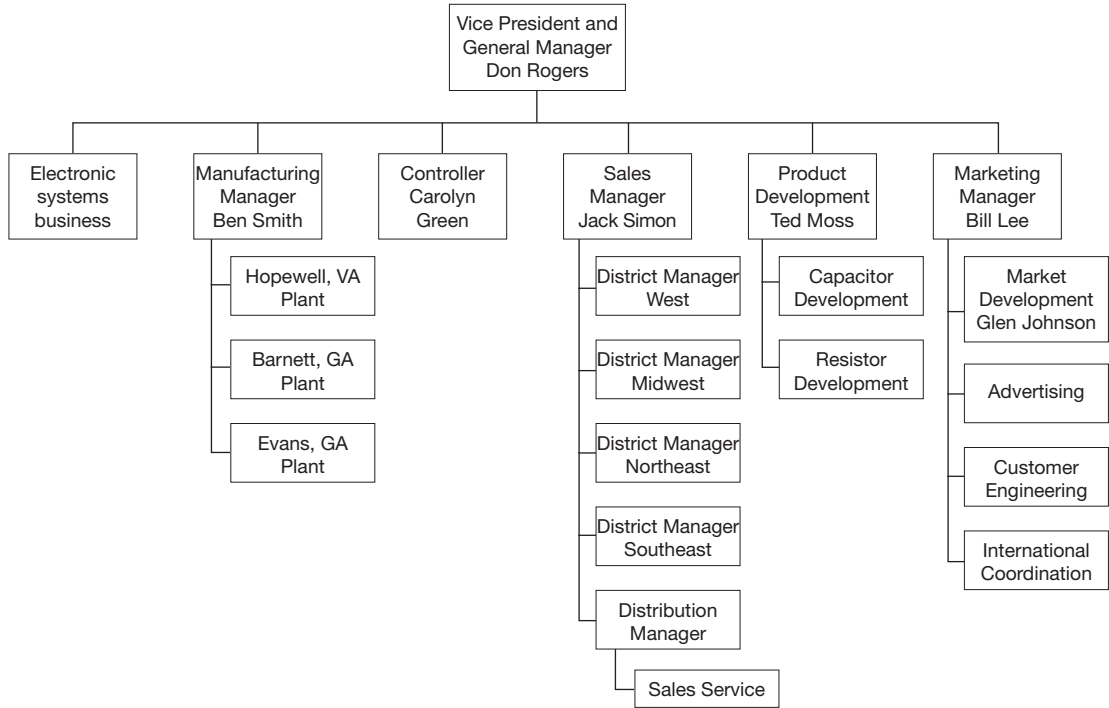
He is not involved enough in the problems that arise from differences in the goals of functional departments. This may be because he spends too much time away on corporate assignments. But it doesn't change the fact that he is not involved enough.

Wave-makers are not wanted in the division and are being pushed out. People at the top do not create and confront conflict.

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EXHIBIT 3

Electronic Products Division organizational chart



Source: Company records.

Rogers' actions When Rogers became Vice President and General Manager of the EPD, he made a number of changes in the organization. At the urging of top management and believing that the EPD had to learn to relate more closely to the corporation, Rogers moved the headquarters from Barnett to Allentown. He also brought the market development groups back to Allentown. Furthermore, although the product development groups themselves remained at the plants, Rogers consolidated product development under Ted Moss, who was located in Allentown. Shortly after his promotion, Rogers also separated the marketing and sales functions. As he said later:

It seemed to me that marketing and sales had sufficiently different responsibilities to justify their separation. Sales, I felt, should be concerned with knocking on doors and getting the order while marketing should be concerned with strategies for pricing, new products, and identification of new opportunities for the future. Marketing is a strategic function, as opposed to a day-to-day function.

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Another major change had to do with personnel. Rogers replaced all of his key managers with the exception of Ted Moss, the product development manager. Ben Smith, the new manufacturing manager, had held a similar job in Allentown's Laboratory Products Division. Bill Lee, the new marketing manager, had held positions in manufacturing in Allentown's other divisions and had recently been in charge of corporate market planning. Carolyn Green, the new controller, had worked in plants in Allentown's Computer Products Division. Of the new division staff only Jack Simon, the new sales manager, came from within the EPD.

Rogers also turned to improving the EPD's service. An information system was developed by the sales service function. In addition, the manufacturing manager held plant managers responsible for meeting specific goals for delivery commitments and shortening delivery lead times. Furthermore, Rogers requested a report on Bennett's organizational behavior program, which originally was designed to span a three-year period. Rogers learned that the program had made a positive impact on the division, but that the final phase, dealing with the improvement of interfunctional coordination, was not yet complete. In light of business difficulties and his relative newness to the division, Rogers decided to discontinue Bennett's program. He was not sure that the program was an effective way to tackle the problems he faced. He decided to review what he knew about each of the functional areas.

REVIEW OF THE FUNCTIONAL DEPARTMENTS IN 1992

Manufacturing Resistors and capacitors were manufactured in high volume at three plants—located in Evans, Georgia (resistors), Hopewell, Virginia (resistors), and Barnett, Georgia (capacitors). Each of these plants had a plant manager and a full complement of line and staff functions including production, engineering, quality control, purchasing, accounting and control, and personnel.

The plant managers, with one exception, had grown up in the EPD. As profit center managers, their performance was evaluated on the basis of gross margins and other manufacturing variances, including lead times and missed delivery commitments to customers. These plant managers felt that their reputations and therefore their promotability were dependent on plant growth and good gross margin performance. All saw their future advancement within the manufacturing hierarchy of the company leading to the possibility of promotion to general manager of a division. Since manufacturing was the dominant function, such an expectation was not unrealistic.

EPD's plant managers were extremely upset by the lack of growth in the division's business. In the last two years their volume had shrunk and, because of price cuts, their dollar volume had dropped substantially. Managers were thus under enormous pressure to reduce costs in order to maintain their gross margins. While they were able to reduce some costs, gross

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margins still declined. With some exceptions, EPD's plants had the smallest gross margins in the company. Plant managers expressed the following statements:

We are experiencing price erosion in our product lines, and I do not see a large number of new products. We need something new and unique. I do not see growth potential in our existing products.

The frustration experienced by the manufacturing people was expressed most in their attitudes toward the sales and marketing functions. They felt sales focused exclusively on volume with no concern for gross margin. They blamed sales for getting low-gross-margin business and not fighting hard enough to get better price. Sales, in other words, was giving profits away at manufacturing's expense, and sales was not penalized for it.

Manufacturing was even more critical of the marketing function. They felt that marketing had failed in its responsibility to provide the division with a direction for profitable growth. They particularly blamed Bill Lee, the marketing manager, for lack of "strong leadership." They were upset by what they called the "disappearing carrot syndrome." As manufacturing saw it, marketing would come to the plant and project a market of several million dollars for a new resistor or capacitor (the carrot). On the basis of this projection, manufacturing would run samples and make other investments in preparation for the new product only to find out six months or a year later that marketing was now projecting much smaller sales and profits. Manufacturing concluded that marketing lacked the ability to forecast marketing trends accurately and was generally incompetent. Many felt that Bill Lee and some of his staff should be replaced.

Manufacturing was also unhappy with product development, which they felt had not always given them products that would run well on their production lines. They looked to product development to identify new low-cost components and saw nothing coming. When product development requested special runs on their manufacturing lines to develop new products, manufacturing wondered how they would be compensated for this sacrifice in efficiency.

Marketing Marketing comprised several activities, including customer engineering, advertising, and its most important function, market development. Under Glen Johnson, market development was responsible for developing sales projections for the next year, market plans for the next three years, analyses of market share, and plans for improving market position. One of the primary means for increasing market share was the development of new types of resistors and capacitors (product extensions). It was market development's responsibility to identify these new opportunities and to assure the development of new products in coordination with other functions. Because the identification of new market opportunities was primarily their responsibility (with help from sales), as was the development of the new product plan, marketing felt the pressure for new product development fell on them.

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The marketing function had many new people since it had been established as a separate function just a year earlier. Most of the people had transferred from the sales department. Johnson, for example, had been a district sales manager. The marketing specialists were generally recent technical or business graduates with one or two years of sales experience.

Overwhelmed by the tough job of forecasting, planning, and formulating strategy in a very turbulent marketplace, the marketing people felt that no one appreciated their difficulties. Some felt that Allentown had such high standards for profitability on new products that it was impossible to meet them in the components business. Johnson, the market development manager, said:

While corporate financial people will admit that we need a different set of criteria, they informally convey to us that we are doing a lousy job, and it makes us run conservatively. The corporate environment is not a risk-taking one. We tend to want to bring a proprietary advantage to our business which we cannot do. This is slowing us down.

Marketing people were also critical of product development and its responsiveness to the divisions' needs. As marketing people saw it, product development's priorities were wrong and their projects were always late. According to Johnson, "Moss takes projects on without fully considering the resource implications. There are no procedures or criteria to establish priorities in development. Seventy percent of his time is in process rather than product development."

Marketing felt most resentful about the lack of cooperation and the continual sniping from manufacturing. They saw manufacturing as conservative and unwilling to take risks. This was particularly aggravating because many marketing people felt they were distracted from their primary responsibility by having to spend inordinate amounts of time dealing with manufacturing. Johnson indicated that he would not have taken the marketing job had he known that it would involve the many frustrations of getting manufacturing and others to do things.

Sales EPD products were sold through a direct selling force of approximately 25 salespeople, organized into four sales districts. Each district was managed by a district sales manager who reported to the national sales manager, Jack Simon. Simon, like all the district sales managers, had come up through sales. The direct sales force visited manufacturers whose products incorporated electrical components, with the objective of learning about the customer's needs by talking to purchasing agents and design engineers, and then obtaining contracts for resistors or capacitors. The sales force consisted of both college graduates and older, more experienced salespeople who had worked in this industry for a long time.

The sales force was integrated, meaning that EPD salespeople sold capacitors and resistors to the same customers. Thus, the EPD sales force had to develop many relationships with purchasing agents and engineers, and relied on good relationships to obtain market intelligence and an opportunity to bid on contracts. But salespeople also had to negotiate with these same people to obtain the best possible price. Since their performance was evaluated on the basis

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of sales volume, they worked hard to beat their budgeted sales targets. However, the sales force was not paid on a commission basis; this was a subject of some discussion and discontent amongst them.

Simon reported mistrust, gamesmanship, maneuvering, and politicking between sales and marketing. He said, “We in sales do not believe that the information marketing gives us is the best.” Major conflict arose in budget-setting sessions, partly because sales based its forecasts on customer canvassing while marketing used analytical tools to develop its projections. Simon said, “Conflicts are not resolved based on facts. Instead there are accusations. I don’t trust them [marketing], and I do not trust that they have the capability to do their jobs.” His view of manufacturing was somewhat more positive:

Relations with manufacturing are personally good, but I have a number of concerns. I do not know and no one knows about actual cost reductions in the plant. I don’t think manufacturing gets hit as hard for lack of cost reduction as sales takes it on the chin for price reductions. Another problem is Hopewell’s service. It’s putrid! There is constant gamesmanship in the Hopewell plant.

At lower levels of the organization, relationships between sales and manufacturing seemed even worse. There were shouting matches over the telephone between the Midwest district sales manager and the Evans plant manager. In one instance, sales had requested quick delivery to meet a major customer’s needs, feeling that a slow response would damage the EPD’s position with the customer. The plant said it could not provide delivery on such short notice without upsetting plant operations. The sales service manager commented, “The relationship with the Hopewell plant is bad. Measurement for plant managers has to change. They are not really measured on service. Things have improved somewhat, however, and they are a bit more concerned about service.”

Product Development Unlike the other Allentown divisions, the EPD had its own product development group. The EPD’s product development group was responsible for developing extensions of the current product line, although they also relied on Technical Staffs for research and development support. (Most other divisions relied totally on the Technical Staffs Division for technical product development support and only had engineering groups for manufacturing staff support.) The product development department often became involved in manufacturing process development as well.

Usually, between 10 and 12 new product development projects were under way, often requiring significant technological development. The development group was divided into two parts: resistors (located in the Hopewell plant) and capacitors (located in Barnett). The manager of product development was based in Allentown, Pennsylvania, along with the rest of the divisional staff. The group was composed of technical people who had spent their careers in research and development work. While some of these people had come from the corporate R&D group, many had worked in the division for most of their careers or had held technical

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positions in other companies in the electronics industry. Ted Moss, manager of product development, described his relationship with other groups:

In general, my department's relations with the plants are pretty good although some problems exist at Hopewell. My biggest concern is with marketing. I do not feel that marketing provides detailed product specification for new products. In addition, marketing people do not understand what is involved in specification changes. I think that writing specifications jointly with marketing would help this problem. Another problem is that marketing people have to look ahead more and predict the future better. They always need it yesterday. We need time!

We also have problems with sales. We need comments from the sales group on our new products. I wanted to get the call reports they write and asked Simon for copies. He would not give them to me because, 'the marketing department has the responsibility for interpretation.' I finally had to go to Rogers to resolve the problem.

Moss was also critical of Allentown's Technical Staffs Division, which on occasion did product development work for the EPD:

It is difficult to get a time schedule from them. Their direction is independent of ours since they report elsewhere. They will not wring their hands if they are behind schedule. They will more quickly try to relax requirements for the development if it is behind schedule. I need more influence on specifications when it comes to things they are working on. I often have to go upstairs [to speak with their bosses] to solve the problems that occur with this group.

THE NEW PRODUCT DEVELOPMENT PROCESS

As Rogers completed his review of the functional areas, he continued to ponder the EPD's new product development process. Two recent situations illustrated that the process was far from smooth.

Two cases The situation with the W-1201 capacitor, a new product for the computer market, was one example. The W-1201 project had been killed and resurrected four times because different parts of the organization had differing knowledge of its status at given points in time. Marketing saw the W-1201 product as a clear opportunity and product development thought it was technically feasible. But sales questioned the product's ability to compete in the marketplace, because manufacturing's cost quotes were so high. As discussions progressed on needed product modifications to reduce costs, marketing's estimate of the potential market changed as did product development's assessment of technical feasibility. Because each function's management judged the viability of the product independently, the status of the project was never clear. At one point in time, salespeople were actually obtaining orders for samples of the W-1201 without knowing that manufacturing and marketing had decided that the product was unfeasible and had killed the idea.

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In another case, severe conflict between marketing and plant personnel erupted over a potential new coating for resistors. Marketing had determined that a new, uniform coating was needed for competitive and efficiency reasons. They presented their views to the division's management and received what they thought was a commitment to change resistor coatings. But the plants were reluctant to convert their operations. They questioned whether product development had proved that the new coating would work and could be manufactured to meet product specifications at no additional cost. Moreover, the plants completely distrusted marketing's judgment of the need for this change. The marketing specialist in charge of the project would return from plant meetings angry and completely discouraged about his ability to influence plant people to advance the project.

Product Development Meetings Two day-long meetings were held in Allentown, Pennsylvania, once each accounting period (28 days) to discuss, coordinate, and make decisions about new products. Separate meetings were held for capacitors and resistors. In all, approximately 20 people attended each meeting, including the division manager, his immediate staff, plant managers, and a few other key people in the other functions.

A continual stream of people flowed in and out of these meetings to obtain information from subordinates in their functional area. It was not uncommon for a plant manager to leave the meeting to call an engineer in his plant for details about a project's status. At one meeting Ted Young, a marketing specialist, was repeatedly cited as the person who knew the most about the project under discussion, yet he was not present. On other occasions marketing specialists (who were located in Allentown) were called in to share their information about a project. If necessary, plant people and product development people were also sometimes brought to Allentown for the meeting.

The meetings were chaired by Johnson, the market development manager, who typically sat at the head of the table. Johnson published an agenda ahead of time and usually directed the discussion as it moved from one project to another. For each project, progress was checked against goals agreed to by each function at the previous review. Each function described in some detail what had been done in its area to support the project (for example, what equipment changes had been made in a plant). If a function had not met its goals, as was often the case, new deadlines were set. While problems encountered were always described, the issue of slippage in goals and the underlying reasons for it were rarely discussed. Differences in opinion usually proved very hard to resolve. Often, these conflicts were ended only when people agreed to disagree and moved on to the next item on the agenda. While tempers flared occasionally, open hostility or aggression was rarely expressed in the meetings. Afterward, however, people often met in pairs or small groups in the hallways, over coffee, or in other offices to continue the debate.

In the past, the division manager had not attended product development meetings. In 1992 marketing asked Rogers to attend these meetings to help in moving decisions along. Rogers

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took a very active part in the meetings; he usually sat across the table from Johnson. He often became involved in the discussion of a new product, particularly its technical aspects. Frequently he explained technical points to others who did not understand them. His viewpoints were clearly heard and felt by others, and people thought that meetings had improved since he decided to sit in. Nevertheless, Johnson still dreaded the product development meetings:

I never sleep well on the night before the meetings. I start thinking about the various projects and the problems I have in getting everyone to agree and be committed to a direction. We spend long hours in these meetings but people just don't seem to stick to their commitments to accomplish their objectives by a given date. Projects are slipping badly and we just can't seem to get them moving. In my opinion, we also have some projects that should be killed but we can't seem to be able to do that, either. Frankly, if I had it to do over again, I would not take this job. After all, how much marketing am I really doing? I seem to spend most of my time in meetings getting others to do things.

THE OUTLOOK FOR 1993

Rogers knew that something needed to be done. As 1992 drew to a close, Rogers and his top management group were preparing for their second GLF (Great Leap Forward) meeting. This meeting had been instituted the year before as a forum for discussing major problem areas and developing commitment to division objectives for the coming year. Now it was time to look ahead to 1993.

PART V

STUDY GUIDES FOR CASE ANALYSIS AND WRITING

Study Guide for Decision Scenario Cases

Study Guide for Evaluation Scenario Cases

Study Guide for Problem-Diagnosis Scenario Cases

In this section, you'll find guides for analyzing a case and writing an essay about it. The first part of each guide organizes your thinking and the notes you take when you're analyzing a case. The second part aids you in translating the notes into an essay outline.

Each guide is based on one of the three case scenarios described in the book. To know which guide to use, you'll have to identify the core scenario of a case. For an explanation of how to do that, see chapter 3. Chapters 4, 5, and 6 show in greater detail how each scenario can be used to analyze a case efficiently. Chapters 9, 10, and 11 tell you how the scenarios can organize essays you write about cases.

Use the guides to help you focus and structure your thinking about a case to prepare for a discussion or to write an essay. (You don't have to fill them in completely.) Download the guides as Word files at hbsp.harvard.edu/casestudyhandbook. Then you can work with them on a computer, tablet, or phone or print them out and take notes with a pencil or pen.

STUDY GUIDE FOR DECISION SCENARIO CASES

I. Analyzing a Decision Scenario Case

This study aid is divided into two parts. The first part organizes your notes and thinking about the case. The second organizes the points you want to make for an essay on the case. (For a detailed explanation of how to analyze a decision scenario, see chapter 4.)

To begin your work, think about the following questions:

What is the decision that needs to be made in the case? Example: Should Trendway make changes to its production line?

What are the major decision options? Example: The company can expand its current production line, improve its yield, or build a new line with advanced technology.

Exploring the Decision Options

What questions will help you decide which decision option is best? Example: Which option yields the best financial results for Trendway?

What concepts and frameworks might help answer your questions? Example: The concepts of unit cost and breakeven help to compare the financial impact of the three decision options.

Use the following grid to organize your thinking about the decision. Use your questions to study the evidence and identify criteria for making the decision. Write down the criteria, the case evidence relevant to them, and which decision option the evidence supports. Your goal is to determine the option that is most strongly supported by the evidence. You can defer thinking about action steps if you'd rather focus on the decision first.

Example: Should Trendway expand its current production line, improve its yield, or build a new line capable of producing future products?

Possible criterion 1: Financial impact of the decision options			
Facts/evidence	What the evidence indicates about the decision options	Short-term steps	Long-term steps
The lowest unit cost is achieved by improving the yield of the current production line.	This evidence favors the second option in the short term, but rapid changes in the product being manufactured may soon make the line obsolete.	Begin planning for a new line to accommodate new technology.	

Possible criterion 1: _____			
Facts/evidence	What the evidence indicates about the decision options	Short-term steps	Long-term steps

Possible criterion 2: _____			
Facts/evidence	What the evidence indicates about the decision options	Short-term steps	Long-term steps

Copy and paste as many rows of criteria as you need. Make sure you include only the most important criteria.

Ready to Recommend a Decision?

Based on your analysis, recommend a decision option and then state the major reasons that support your recommendation.

The evidence you compiled above is critical to prove the decision you recommend.

What decision do you recommend? Example: Trendway should invest in a new production line.

What are the major reasons that support your recommendation? Example: The new line will make Trendway more competitive in the medium-to-long term.

What are the major risks of your recommended decision? Example: A major downturn in the market could greatly reduce or eliminate the financial benefit of the new line.

II. Writing about a Decision Scenario Case

This section helps you organize the content of an essay about the case you've analyzed. Arrange the criteria in order of importance, from most important to least. The evidence should show how each criterion supports your recommended decision. (For a detailed explanation of how to write a decision scenario essay, see chapter 9.)

Recommended decision	
Summary of major reasons for recommended decision	
EVIDENCE PROVING RECOMMENDED DECISION	
Criterion 1	
a.	
b.	
c.	
Criterion 2	
a.	
b.	
c.	
Criterion 3	
a.	
b.	
c.	

Copy and paste as many rows of criteria as you need. Make sure you include only the most important criteria.

Action Plan

Identify the high-level goals for your action plan. In other words, how do you want the action plan to change the situation in the case? (For a detailed explanation of how to write an action plan, see chapter 8.)

234 STUDY GUIDES FOR CASE ANALYSIS AND WRITING

Organize your action plan steps.

Short term

Long term

Major risks: Identify the most important one or two risks associated with your action plan.

Mitigation of risks: How would you eliminate or reduce the risks?

STUDY GUIDE FOR EVALUATION SCENARIO CASES

I. Analyzing Evaluation Scenarios

This study aid is divided into two parts. The first part organizes your notes and thinking about the case. The second organizes the points you want to make for an essay on the case. (For a detailed explanation of how to analyze an evaluation scenario, see chapter 5.)

To begin your work, think about the following questions:

What is the subject of the evaluation? (It can be a person, team, product or service, company, country, strategy, or policy.) Example: An ongoing marketing plan.

What is the evaluation you need to perform? (It can be determining the worth, value, performance, effectiveness, outcome, or consequences of the subject.) Example: Is the marketing plan meeting the goals set for it?

Exploring the Evaluation

What questions will help you make the evaluation? Example: Is the marketing plan performing as expected, exceeding its goals, or underperforming?

What concepts and frameworks might help answer your questions? Examples: The 5Cs and 4Ps of marketing can help evaluate the strategic value and tactical performance of the marketing plan.

Use the following grid to organize your thinking about the evaluation. Use your questions to study the evidence and identify criteria for making the evaluation. Write down the criteria, the case evidence relevant to them, and what overall evaluation the evidence supports. Your goal is to determine which overall evaluation is most strongly supported by the evidence. You can defer thinking about action steps if you'd rather focus on the evaluation first.

Example: Evaluation of a marketing plan

Possible criterion 1: Economic performance of the country			
Facts/evidence	What the evidence indicates about the evaluation	Short-term steps	Long-term steps
Customers have a slightly more favorable impression of the brand.	The plan hasn't significantly changed customers' impression of the brand.	Explore whether the plan needs more time to have an impact or new ideas for increasing positive impressions of the brand are required.	

Possible criterion 1: _____			
Facts/evidence	What the evidence indicates about the evaluation	Short-term steps	Long-term steps

Possible criterion 2: _____			
Facts/evidence	What the evidence indicates about the evaluation	Short-term steps	Long-term steps

Copy and paste as many rows of criteria as you need. However, make sure you include only the most important criteria.

Ready to Recommend an Overall Evaluation?

Based on your analysis above, what is your overall evaluation of the subject? Example: The marketing plan has had several positive effects, but it has had little impact on customers' impression of the brand.

What are the major reasons that support your overall evaluation? Example of a reason: Survey results indicate little change in customers' favorable impression of the brand.

II. Writing about an Evaluation Scenario Case

This section helps you organize the content of an essay about the case you've analyzed. Arrange the criteria in order of importance, from most important to least. The evidence should show how each criterion supports your overall evaluation. (For a detailed explanation of how to write an evaluation scenario essay, see chapter 10.)

Overall evaluation	
Summary of major reasons for recommended evaluation	
EVIDENCE PROVING OVERALL EVALUATION	
Criterion 1	
a.	
b.	
c.	
Criterion 2	
a.	
b.	
c.	
Criterion 3	
a.	
b.	
c.	

Copy and paste as many rows of criteria as you need. However, make sure you include only major criteria.

Action Plan

Identify the high-level goals for your action plan. In other words, how do you want the action plan to change the situation in the case? (For a detailed explanation of how to write an action plan, see chapter 8.)

240 STUDY GUIDES FOR CASE ANALYSIS AND WRITING

Organize your action plan steps.

Short term

Long term

Major risks: Identify the most important one or two risks associated with your action plan.

Mitigation of risks: How would you eliminate or reduce the risks?

STUDY GUIDE FOR PROBLEM-DIAGNOSIS SCENARIO CASES

I. Analyzing a Problem-Diagnosis Case

This study aid is divided into two parts. The first part organizes your notes and thinking about the case. The second organizes the points you want to make for an essay on the case. (For a detailed explanation of how to analyze a problem-diagnosis scenario, see chapter 6.)

To begin your work, think about the following questions:

What problem does the case describe? (Problems are the effects of causes such as actions, processes, activities, or forces. Problem scenarios often concern business pathology.)

Example: A company is losing money in a market it once led.

What questions will help you explore the problem and its causes? Example: Has poor leadership been one reason for the company’s poor performance?

Can you identify concepts or frameworks you have learned that might be useful for identifying and proving causes? Example: The leadership styles theory can help determine whether leadership is a contributor to the problem.

Use the following grid to organize your thinking about the problem. Use your questions to study the evidence and identify causes of the problem. Write down the causes, the case evidence relevant to them, and how the evidence connects the cause to the problem. Your goal is to determine the causes of the problem most strongly supported by the evidence. You can defer thinking about action steps if you’d rather focus on the decision.

Example: Diagnosis of a company’s poor performance

Possible cause 1: Poor leadership			
Facts/evidence	How cause contributes to the problem	Short-term steps	Long-term steps
The head of the division is an autocratic leader who makes major decisions without consulting anyone.	The division head’s autocratic leadership style led to several bad decisions because he failed to tap into the knowledge and experience of subordinates.	The CEO needs to intervene and push the division head to become more collaborative in decision making.	The head of the division should receive leadership coaching.

Possible cause 1: _____			
Facts/evidence	How cause connects to problem	Short-term steps	Long-term steps

Possible cause 2: _____			
Facts/evidence	How cause connects to problem	Short-term steps	Long-term steps

Copy and paste as many rows of causes as you need. However, make sure you include only major causes.

Ready to Take a Position?

What is the problem? Example: The division lost its competitive advantage after years of market leadership and there is a high level of internal conflict.

What are the major causes? Example: The major causes are a change in the division's primary market, a leadership crisis, and two poor strategic decisions.

II. Writing about a Problem-Diagnosis Scenario Case

This section helps you organize the content of an essay about the case you've analyzed. Arrange the causes in order of importance, from most important to least. The evidence should show how each cause contributes to the problem. (For a detailed explanation of how to write a problem-diagnosis essay, see chapter 11.)

Definition of problem	
Summary of major causes	
EVIDENCE PROVING DIAGNOSIS	
Criterion 1	
a.	
b.	
c.	
Criterion 2	
a.	
b.	
c.	
Criterion 3	
a.	
b.	
c.	

Copy and paste as many rows of causes as you need. However, make sure you include only major causes.

Action Plan

Identify the high-level goals for your action plan. In other words, how do you want the action plan to change the situation in the case? (For a detailed explanation of how to write an action plan, see chapter 8.)

Organize your action plan steps.

Short term

Long term

Major risks: Identify the most important one or two risks associated with your action plan.

Mitigation of risks: How would you eliminate or reduce the risks?

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William Ellet

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ABOUT THE AUTHOR

WILLIAM ELLET has worked with MBA students for over thirty years. He is a lecturer in the University of Miami School of Business and has taught at Harvard Business School, Brandeis University, and George Washington University. He has facilitated case teaching seminars for Harvard Business Publishing and the Latin American Scholarship Program of American Universities (LASPAU), and as a consultant in China, Saudi Arabia, the United States, Mexico, Honduras, Guatemala, Colombia, Ecuador, Peru, Chile, and Brazil. His publications include an online course (Management Communication), this book, cases, and a video, all published by Harvard Business School or Harvard Business Publishing.

