

## DECISION MAKING

**OBJECTIVES** By the end of this chapter, you should be able to:

- Explain why decision making is a social process.
- Describe four models of decision making.
- Explain groupthink.
- Identify your personal approach to organizational decision making.
- Apply the leader-participation model of decision making.

## PAJAMA TALK

The Sleepytyme Pajama factory was going great guns. Sales were up. The workforce was expanding. There was only one hitch. To remain competitive, factory managers were constantly adapting both work techniques and products. Workers were often transferred to different jobs or had parts of their job modified, either in the name of progress or as a result of high turnover and absenteeism. The biggest problem facing Sleepytyme was worker resistance to these changes. As soon as they became proficient at one job, they'd be switched to another. They worked on a piece-rate incentive system, and it wasn't easy to work their way up to producing 60 units per hour, the standard efficiency rate. Some suspicious souls thought management just switched workers to new jobs when they had finally mastered their tasks and could begin to earn bonuses for producing more than 60 units. Even though workers received a transfer bonus that made up for the money lost learning new jobs, it didn't make up for the loss in status of being a "greenhorn" on a new task. Workers still hated to be transferred to a new job, and some quit rather than change. Others complained bitterly about management and fought with their supervisors and the time-study engineers. Statistics showed that experienced workers took longer to relearn new jobs and get up to speed than did new employees with no work experience! This convinced the company that the problem was really a question of motivation and resistance to change.

Mr. Sleepytyme himself, Joe Berg, had the production people organize the output figures in relation to the changes that had been introduced during the last year. He was surprised to find that the work groups supervised by Kathy Johnson seemed to have fewer problems with changes. Her groups got back to speed more quickly after the changes and had a higher level of output than the others. She also had fewer terminations, even after the job transfers. So Berg sent his industrial relations expert out on the floor to figure out what was going on.

After observation, the expert discovered that the difference lay in how the supervisors handled the changes. Supervisors of the low-productivity groups simply announced to their employees that a job had to be changed, explained the new piece rate, and answered questions.

In contrast, Johnson used physical demonstrations with her workers in which she showed them samples of pajamas made using new and old techniques, explained the cost differential, and asked them if they could tell the difference between them. Or she'd bring in pajamas made by a competitor who was underselling them and show them why changes had to be made to respond to this challenge. Next, she'd ask the group how the new jobs should be designed. They'd come up with a blitz of ideas for improving the job, and then they worked with the time-study engineer to test out the innovations. Johnson let the workers do most of the talking and planning. She didn't have in her head a "one best way" to make the changes; she let them figure it out for themselves. As a result, they bought into the changes and became committed to making them work. Johnson made the factory workers participants in the change process rather than victims of it. And so it was that Berg learned that the sooner people are brought into a change effort and allowed to participate in the decision making, the better.

Source: Based on Lester Coch and John R. French, Jr., "Overcoming Resistance to Change," *Human Relations*, 1 (1947): 512-31.



## PREMEETING PREPARATION

(Time allotted: 30 minutes)

A. Read "Pajama Talk."

B. Read the descriptions of decision-making alternatives for individual and group problems in Table 15-1 and describe how you would handle each of the five decision-making cases that follow. Indicate whether the case describes an individual or group problem and which decision-making approach you would use. Choose your approach based on what you would do in each case and explain your rationale. This will allow a comparison between your decision-making style and the recommendations of the decision-making model described in this chapter.

TABLE 15-1 Leadership Styles

<b>A1</b>	You solve the problem or make a decision yourself, using whatever facts you have at hand.
<b>All</b>	You obtain any necessary information from those who report to you and then reach a decision alone. You may or may not tell them about the nature of the situation you face. You seek only relevant facts from them, not their advice or counsel.
<b>C1</b>	You consult one-on-one with those who report to you, describing the problem and asking for each person's advice and recommendations. The final decision, however, is yours alone.
<b>CII</b>	You consult with those who report to you in a meeting, describing the problem and requesting their collective advice and recommendations. The final decision, however, is yours alone and may or may not reflect your subordinates' influence.
<b>GII</b>	You share the problem with your subordinates as a group. Your goal is to help the group concur on a decision. Your ideas are not given any greater weight than those of others.

A = Autocratic Decision, C = Consultative Decision, G = Group Decision

- C. After completing B, read the Topic Introduction and the Procedure for Group Meeting.
- D. What are the significant learning points from the readings?
- E. If your instructor has assigned the Robbins Self-Assessment Library, use "How Intuitive Am I?"

## CASE 1: THE FINANCE CASE

You are the head of a staff unit reporting to the vice president of finance. The vice president has asked you to provide a report on the firm's current portfolio to include recommendations for changes in the selection criteria currently employed. Doubts have been raised about the efficiency of the existing system in the current market conditions, and there is considerable dissatisfaction with prevailing rates of return.

You plan to write the report, but at the moment you are quite perplexed about the approach to take. Your own specialty is the bond market, and it is clear to you that detailed knowledge of the equity market, which you lack, would greatly enhance the value of the report. Fortunately, four members of your staff are specialists in different segments of the equity market. Together they possess a vast amount of knowledge about the intricacies of investment. However, they seldom agree on the best way to achieve anything when it comes to investment philosophy and strategy. You have six weeks before the report is due. You have already begun to familiarize yourself with the firm's current portfolio and have been provided by management with a specific set of constraints that any portfolio must satisfy. Your immediate problem is to come up with some alternatives to the firm's present practices and select the most promising for detailed analysis in your report.

How would you deal with this situation?

*With a checkmark, indicate the style that most closely describes the action you would take.*

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Why would you use this style?

with clients in the field.

Yesterday you received a complaint from one of your major clients to the effect that the consultant whom you assigned to work on the contract with them was not doing his job effectively. They were not very explicit as to the nature of the problem, but it was clear that they were dissatisfied and that something would have to be done if you were to restore the client's faith in your company.

The consultant assigned to work on that contract has been with the company for six years. He is a systems analyst and is one of the best in that profession. For the first four or five years his performance was superb, and he was a model for the more junior consultants. However, recently he has seemed to have a "chip on his shoulder" and his previous identification with the company and its objectives has been replaced with indifference. His negative attitude has been noticed by other consultants, as well as by clients. This is not the first such complaint that you have had from a client this year about his performance. A previous client even reported to you that the consultant reported to work several times obviously suffering from a hangover.

It is important to get to the root of this problem quickly if that client is to be retained. The consultant obviously has the skill necessary to work with the clients effectively. If only he were willing to use it!

How would you as regional manager deal with this problem?

*With a checkmark, indicate the style that most closely describes the action you would take.*

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Why would you use this style?

### CASE 3: THE ENGINEERING WORK ASSIGNMENT

You are supervising the work of 12 civil engineers. Their formal training and work experience are very similar, permitting you to use them interchangeably on projects. Yesterday your manager informed you that a request had been received from an overseas affiliate for four engineers to go abroad on extended loan for a period of six to eight months. For a number of reasons, she argued and you agreed, this request should be met from your group.

All your engineers are experienced in and are capable of handling assignments such as this. From the standpoint of present and future work projects, there is no particular reason why any one should be chosen over any other. The problem is somewhat complicated by the fact that the overseas assignment is in what is generally regarded in the company as an undesirable location.

How would you deal with this situation?

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Why would you use this style?

You are executive vice president for a small pharmaceutical manufacturer. You have the opportunity to bid on a contract for the Defense Department pertaining to biological warfare. The contract is outside the mainstream of your business; however, it could make economic sense because you do have unused capacity in one of your plants, and the manufacturing processes are not dissimilar. You have written the document to accompany the bid and now have the problem of determining the dollar value of the quotation that you think will win the job for your company. If the bid is too high, you will undoubtedly lose to one of your competitors; if it is too low, you would stand to lose money on the program.

There are many factors to be considered in making this decision, including the cost of the new raw materials and the additional administrative burden of relationships with a new client, not to speak of factors that are likely to influence the bids of your competitors, such as how much they need this particular contract. You have been busy assembling the necessary data to make this decision, but there remain several "unknowns," one of which involves the manager of the plant in which the products will be manufactured. Of all your subordinates, only she is in the position to estimate the costs of adapting the present equipment to its new purpose, and her cooperation and support will be necessary in ensuring that the specifications of the contract will be met. However, in an initial discussion with her when you first learned of the possibility of the contract, she seemed adamantly opposed to the idea. Although she has been an effective and dedicated plant manager over the past several years, her previous experience has not particularly equipped her to evaluate the overall merits of projects such as this one. From the nature of her arguments, you inferred that her opposition was ideological rather than economic. You recall in this context that she is involved in the local nuclear freeze movement.

How would you go about determining the amount of the bid?

With a checkmark, indicate the style that most closely describes the action you would take.

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Why would you use this style?

## CASE 5: THE OIL PIPELINE

You are general supervisor in charge of a large gang laying an oil pipeline. It is now necessary to estimate your expected rate of progress to schedule material deliveries to the next field site. You know the nature of the terrain you will be traveling and have in your records the historical data needed to compute the mean and variance in the rate of speed over that type of terrain. Given these two variables, it is a simple matter to calculate the earliest and latest times at which materials and support facilities will be needed at the next site. It is important that your estimate be reasonably accurate. Underestimates result in idle supervisors and workers, and overestimates result in tying up materials for a period of time before they are to be used. Progress has been good, and your five supervisors and other members of the gang stand to receive substantial bonuses if the project is completed ahead of schedule. How would you go about scheduling material deliveries?

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Why would you use this style?

To a manager, executive, or administrator, no other job function encapsulates the frustrations and joys of leadership more dramatically than decision making. It is in making decisions that managers most acutely feel the responsibilities, the power, and the vulnerability of their jobs. This central focus of decision making is illustrated in the autobiographies of political leaders, who characteristically organize their life stories around major decision points they faced, the dilemmas and pressures they experienced, and how in the end the "buck" stopped on their desks. Most of us in our life and work face decisions of less magnitude; nonetheless, from time to time we share the existential loneliness of making an important decision.

Yet there are two things wrong with using this admittedly powerful subjective experience of decision making as the focus for analyzing and improving the decision-making process in organizations. First, these experiences suggest that decisions can be thought of as independent, solitary events that are relatively unconnected to other decisions and the process that brought the decision point to a head. If there is anything to be learned from the Bay of Pigs fiasco or the Vietnam experience, it is that the organizational process of problem identification, information sharing, and problem solving, if mishandled, can undo the work of the finest, most logical, and experienced individual decision maker.

Second, these political memoirs suggest that decision making is an individual process and, therefore, the skills of logical analysis and problem solving (described in Chapter 10) should be sufficient to produce high-quality decisions. In reality, decision making in organizations is also a social process. Organizational functioning requires an unending stream of decisions great and small. These decisions are identified, made, and communicated by individuals and groups throughout the organization. As a manager, you depend on the decisions of others and the information they bring you. You also delegate decisions and share information about them with others. Part of a manager's role is determining who in the organization has the information, experience, and wisdom needed to make a particular decision. Another part is understanding who are the stakeholders in each issue who need to be involved because their acceptance of the outcome is crucial. Seeing decision making as a social process means that the manager is responsible for determining how the problem is to be solved, but not necessarily the solution. The sense that any decision is made alone in an organization is an illusion.

The focus of this unit is on managing the process of decision making as opposed to the problem-solving skills of making a specific decision. It underscores the social aspects of that process and the alternative ways of making decisions with other people: the costs and benefits and the appropriate application of these decision-making methods in different situations.

Studies of 356 decisions in Canadian and U.S. organizations revealed that half the decisions failed (were never put into practice, only partly used, or completely dissolved).<sup>2</sup> The primary cause of failure can be traced to poor managerial tactics rather than factors outside managers' control. Although two tactics are commonly used by managers, they are less likely to result in successful decisions: persuasion (selling expert opinions to convince employees about a decision) and edicts (directives that announce decisions on which employees have not been consulted). The repeated use of edicts depletes a manager's social credit (the store of goodwill created by honest dealings and positive accomplishments) and may result in sabotage, token compliance, delays, and outright refusals to comply. Employees are more likely to overlook the merits of a decision made by edict and devote their energies to complaining about how the decision was made. Companies are forced to expend unnecessary time, money, and effort to counteract the employee resistance that is a natural outgrowth of many edicts. The managers studied were not aware of the high failure rates associated with edicts and persuasion. Nor were they aware that the following set of tactics has a higher success rate: (1) setting realistic objectives for the decision (e.g., lower costs, higher market share) before moving on to consider options, (2) intervention (pointing out performance gaps and the need for the decision, networking, calling attention to ideas that might work, and identifying and justifying new performance norms), (3) participation (task forces with key individuals), and (4) integrated benchmarking (studying several organizations to learn from their best practices). Decisions are also more likely to be successful if managers involve themselves in the implementation process.



## The Rational Decision-Making Process

The process of rational decision making is somewhat similar to the problem-solving model we studied in Chapter 10:

1. Recognize and define the problem.
2. Identify the objective of the decision and the decision criteria.
3. Allocate weights to the criteria.
4. List and develop the alternatives.
5. Evaluate the alternatives.
6. Select the best alternative.
7. Implement the decision.
8. Evaluate the decision.

By decision criteria, we mean the factors that a decision must satisfy. Cost, time needed for implementation, and fairness are examples of decision criteria. The model of rational decision making is an outgrowth of classical economic theory with its view of rational man (and woman). Although this model is useful in guiding our general approach to decision making, the circumstances surrounding most decisions are seldom so simple or so rational that this model works perfectly and predictably.

## Bounded Rationality

With this in mind, Herbert Simon won a Nobel Prize for his theory of bounded rationality, which maintains that people are restricted in making decisions and settle for less than ideal solutions.<sup>4</sup> In other words, there are limits or bounds on rationality. Bounded rationality is based on these assumptions:

1. Managers select the first alternative that is satisfactory, which is called satisficing.
2. Both the available information and the definition of the situation are incomplete and inadequate to some degree.
3. Managers are comfortable making decisions without first determining all the alternatives.
4. Managers use judgment shortcuts to make decisions, which are called heuristics.

Managers *satisfice* (i.e., accept a decision that is "good enough") because the costs of maximizing are too great. Maximizing would be analogous to searching the Internet to find the very best Web site to help you write an assigned report; satisficing is searching the Web only until you find a site that provides enough information to allow you to produce an acceptable report. *Bounded discretion* is another constraint on the decision-making process—optimal solutions are not always best because they may involve unethical behavior. For example, when Beech-Nut sold adulterated apple juice for babies, it optimized its profit in the short term. However, this decision was viewed as unethical, and the company was penalized.<sup>5</sup>

*Heuristics* are rules of thumb based on past experience that managers use to simplify decision making. For example, when a stock drops a set number of points, some investors automatically sell rather than analyze a wide array of factors that influence the stock. People also tend to compare one decision against another in an incremental approach rather than carry out a comprehensive consideration of all possible decisions.<sup>6</sup>

## Garbage Can Model

The garbage can model of decision making diverges even more radically than bounded rationality from the conception of decision making as a rational process.<sup>7</sup> In the garbage can model, four factors—problems, participants, solutions, and choice opportunities—all float randomly inside an organization, described metaphorically as a garbage can. If they connect, a decision results. The

Decisions are affected by individual differences and biases. For example, some people are more risk averse than others and have less tolerance of uncertainty. As a result, their decisions tend to be more cautious and conservative. Sometimes, however, people suggest riskier decisions in a group setting than they would individually. This is known as the *risky shift*.<sup>9</sup> Apparently, people are more comfortable with increased risk due to the *diffused responsibility of a group*. People sometimes make more cautious decisions in groups (*the cautious shift*) than they would individually. The risky shift is more common than the cautious shift. The determining factor is the pre-meeting position of the members. Group discussion seems to cause individuals to exaggerate their initial stance and move toward extremes.<sup>9</sup> For example, a cautious shift is more likely when group members are leaning toward a cautious decision before the group meeting.

These shifts in group decision making have been called a special form of groupthink. Groupthink refers to the tendency for members of a highly cohesive group to seek consensus so strongly that they fail to do a realistic appraisal of other alternatives, which may be more correct.<sup>10</sup> Ford's decision to produce the Edsel, President Kennedy and his advisors' decision on the Bay of Pigs invasion into Cuba, Morton-Thiokol's decision to recommend launching in the *Challenger* disaster, and Salomon Brothers' illegal purchases at U.S. Treasury auctions are all examples of decisions characterized by groupthink. In each case, individuals "went along" with consensus-driven group decisions that should have been questioned. When groupthink occurs, members censor their misgivings about a decision, or they pressure dissenters to stifle their opinions. Thus, there is pressure toward uniformity and an *illusion of unanimity* that does not really exist. There is also an *illusion of invulnerability* that makes the group overly optimistic and more likely to take high-risk decisions. The *illusion of morality* occurs when groups feel they are morally correct and should, therefore, not be criticized. They collectively rationalize their actions and often stereotype out-group members who may be likely to criticize their actions.<sup>11</sup>

The concept of groupthink focused attention on the need for constructive controversy in decision-making groups. Subsequent empirical research on groupthink has not always validated Irving Janis's original theory.<sup>12</sup> Groups may not manifest all the characteristics of groupthink, yet it is important to remember that cohesive groups can develop groupthink tendencies. To avoid groupthink, groups can (1) encourage all members to express their doubts, (2) assign a devil's advocate in each meeting who challenges assumptions and arguments, (3) adopt the perspectives of other constituencies with a stake in the decision, (4) bring in qualified outsiders to discuss decisions, and (5) after a tentative decision has been reached, schedule a "let's sleep on it one last time" meeting for final concerns and doubts. Group leaders have to demonstrate their own willingness to be criticized and should avoid laying out their own opinions first.

Groupthink usually occurs in the deliberation period before groups begin to receive feedback on their decisions. Surprisingly, negative feedback is not always enough to deter groups and individuals from continuing to support bad decisions. *Escalation of commitment* occurs when people continue to commit resources to a failing course of action.<sup>13</sup> In spite of evidence that a previous decision was a mistake, people sometimes focus on what they have invested in an effort and become even more committed. Countries that continue with wars they cannot win or people who persist in buying shares of a failing stock are examples of escalating commitment.

## THE LEADER-PARTICIPATION MODEL

The decision-making alternatives you used in the preceding section reflect a contingency theory of leadership. The continuum ranges from autocratic decision-making behavior (in which the leader decides alone) to participative styles, ranging from consultation to joint decision making.

The choice of style depends on the problem at hand. Once again, managerial effectiveness depends on having the skills required to analyze the problem in question and the ability to vary one's leadership behavior accordingly.

The leader-participation model is based on evidence that the choice of leadership style can affect these four outcomes of the decision-making process.<sup>14</sup>

1. The *quality or rationality* of the decision, which is defined as the extent to which decisions influence employee performance and further the attainment of organizational goals.
2. The amount of *commitment* to the decision, defined as the degree of employee commitment to executing the decision effectively.
3. The length of *time* required to make the decision, in other words, *efficiency*.
4. The amount of growth or *development* of the group or team.

The extent to which these four outcomes of quality, commitment, time, and development are critical varies from one decision to another. For some decisions, particularly those you will implement yourself, acceptance is not critical, but high quality may be absolutely essential, as for example, in decisions about how to program the computer for inventory control. Other decisions have very little quality requirement but involve great acceptance. The decision about how the office support staff will cover the phones at lunch time is an example of this type of decision. The solution devised has little in the way of a logical requirement because any one of the support staff can do the job, but it must be acceptable to the people involved. Efficiency is usually an important consideration in everything we do in organizations, but other objectives, such as developing subordinates or encouraging organizational learning, sometimes take priority.

It is, therefore, important to be able to diagnose decision situations to determine the outcome requirements and the appropriate method of decision making. No single decision-making method or management style is appropriate for all jobs or even all decisions in a single job. One of the situational contingencies that determines the appropriate leadership style concerns whether or not the problem is structured or unstructured. A problem is well structured if we know the current state of the problem, the desired state, and the alternative courses of action that can remedy it. Structured problems are repetitive and routine problems for which a definite procedure has been developed. In contrast, unstructured problems are novel, and no procedures have been developed to handle them because they occur infrequently and/or are very complex. For example, repairing an airplane is a structured problem; designing a completely new spaceship is an unstructured problem. Because a situation involving an unstructured problem requires more ideas and brains, a more participative leadership style is required.

Victor Vroom and his associates have developed a formal model that helps us to analyze specific decision situations and to determine the decision-making approach that is likely to be most effective.<sup>15</sup> The model is constructed in the form of a decision tree based on seven rules (shown in Table 15-2) that were derived from research on problem solving and decision making. It poses eight questions for managers to ask about a decision.

- A. **Quality requirement** How important is the technical quality of this decision?
- B. **Commitment requirement** How important is subordinate commitment to the decision?
- C. **Leaders information** Do you have sufficient information to make a high-quality decision?
- D. **Problem structure** Is the problem well structured?
- E. **Commitment probability** If you were to make the decision by yourself, is it reasonably certain that your subordinate(s) would be committed to the decision?
- F. **Goal congruence** Do subordinates share the organizational goals to be attained in solving this problem?
- G. **Subordinate conflict** Is conflict among subordinates over preferred solutions likely?
- H. **Subordinate information** Do subordinates have sufficient information to make a high-quality decision?

By answering these questions sequentially and tracing the answers through the model's decision tree (see Figure 15-1 on page 338), managers are led to the most effective leadership

TABLE 13-7 RULES UNDERLYING THE LEADER-PARTICIPATION MODEL

Rules to Protect the Quality of the Decision	Rules to Protect the Acceptance of the Decision
<p>1. <b>The leader information rule.</b> If the quality of the decision is important and the leader does not possess enough information or expertise to solve the problem by himself or herself, then A1 (see Table 13-1) is eliminated from the feasible set.</p> <p>2. <b>The goal congruence rule.</b> If the quality of the decision is important and subordinates are not likely to pursue the organizational goals in their efforts to solve the problem, then G1 is eliminated from the feasible set.</p> <p>3. <b>The unstructured problem rule.</b> In decisions in which the quality of the decision is important, if the leader lacks the necessary information or expertise to solve the problem by himself or herself and if the problem is unstructured, the method of solving the problem should provide for interaction among subordinates likely to possess relevant information. Accordingly, A1, All, and C1 are eliminated from the feasible set.</p>	<p>4. <b>The acceptance rule.</b> If the acceptance of the decision by subordinates is critical to effective implementation and if it is not certain that an autocratic decision will be accepted, A1 and All are eliminated from the feasible set.</p> <p>5. <b>The conflict rule.</b> If the acceptance of the decision is critical, an autocratic decision is not certain to be accepted, and disagreement among subordinates in methods of attaining the organizational goal is likely, the methods used in solving the problem should enable those in disagreement to resolve their differences with full knowledge of the problem. Accordingly, under these conditions, A1, All, and C1, which permit no interaction among subordinates and, therefore, provide no opportunity for those in conflict to resolve their differences, are eliminated from the feasible set. Their use runs the risk of leaving some of the subordinates with less than the needed commitment to the final decision.</p> <p>6. <b>The fairness rule.</b> If the quality of the decision is unimportant but acceptance of the decision is critical and not certain to result from an autocratic decision, it is important that the decision process used generate the needed acceptance. The decision process used should permit the subordinates to interact with one another and negotiate over the fair method of resolving any differences, with full responsibility on them for determining what is fair and equitable. Accordingly, under these circumstances, A1, All, C1, and C11 are eliminated from the feasible set.</p> <p>7. <b>The acceptance priority rule.</b> If acceptance is critical and not certain to result from an autocratic decision, and if subordinates are motivated to pursue the organizational goals represented in the problem, then methods that provide equal partnership in the decision-making process can provide greater acceptance without risking decision quality. Accordingly, A1, All, C1, and C11 are eliminated from the feasible set.</p>

Source: V. H. Vroom, "A New Look at Managerial Decision Making," *Organizational Dynamics*, 2 (Spring 1973): 67.

alternative for the problem. The leadership styles are described in Table 13-1 at the beginning of the chapter. To summarize and understand how the model works, let's analyze an actual problem using the decision tree.

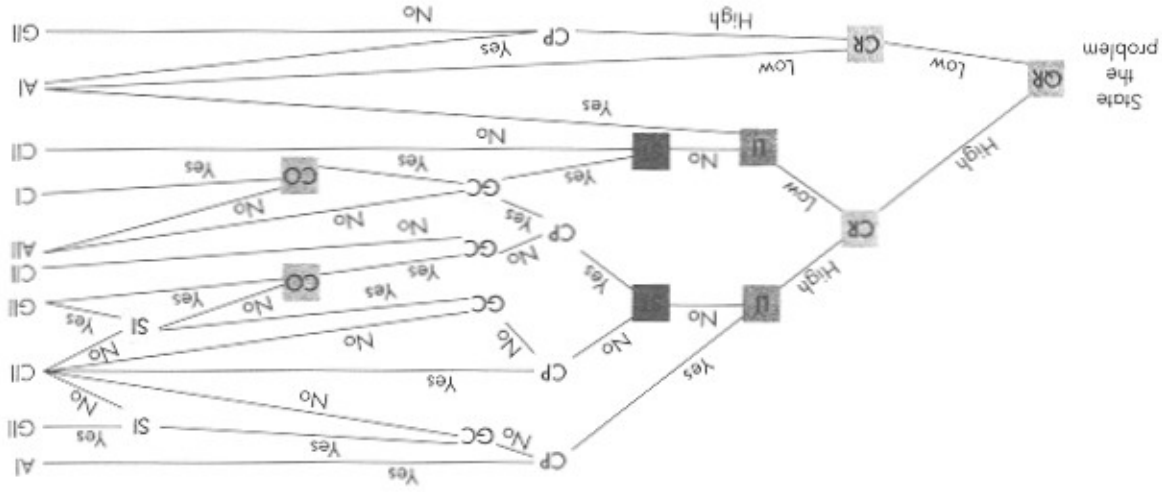
You were hired last month as vice president in charge of purchasing for a large manufacturing company that has thirty plants located in the East. For the last 20 years, the company operated in a decentralized fashion with corporate executives providing a minimal amount of control and direction to autonomous plant managers. Each local purchasing manager reports directly to the plant manager and makes his or her own purchasing decisions. There is little or no coordination among the purchasing managers in different plants, and relationships among them are best described as competitive rather than collaborative.

The president predicted that the company would have increasing difficulty in procuring certain essential raw materials and, as a result, created your position so purchasing decisions would be centralized. You were selected for this job due to your extensive background in corporate

purchasing in a different industry. The president announced your appointment in last week's newsletter. Because the peak buying season is approaching, you want to quickly establish a procedure that will decrease the chance of serious shortages and maximize the advantages of centralized buying (greater leverage with suppliers, lower costs due to greater volume). You are anxious to meet the purchasing agents and pick their brains about their purchasing practices. You have heard that they are a conscientious group that tends to resent interference from headquarters. They are likely to interpret a move toward centralized purchasing as a loss of power on their part. You will need both their input and cooperation for centralized purchasing to work effectively. Furthermore, any solution that does not receive the active support of the various plant managers is likely to fail.<sup>16</sup>

Answering the appropriate diagnostic questions and tracing them through the decision tree works as follows:

**FIGURE 15-1 The Revised Leadership-Participation Model**  
 Source: V. H. Vroom and A. G. Jago, *The New Leadership: Cases and Manuals for Use in Leadership Training* (New Haven, CT: Authors, 1987).



- GR** Quality requirement: How important is the technical quality of this decision?
- CR** Commitment requirement: How important is subordinate commitment to the decision?
- U** Leader's information: Do you have sufficient information to make a high-quality decision?
- Problem structure: Is the problem well structured?
- CP** Commitment probability: If you were to make the decision by yourself, is it reasonably certain that your subordinate(s) would be committed to the decision?
- GC** Goal congruence: Do subordinates share the organizational goals to be attained in solving this problem?
- CO** Subordinate conflict: Is conflict among subordinates over preferred solution likely?
- SI** Subordinate information: Do subordinates have sufficient information to make a high-quality decision?

A. Quality requirements?	High. Running out of essential raw materials would threaten the company's performance.
B. Commitment requirements?	High. A solution that does not receive active support of the plant managers and the purchasing managers will not succeed.
C. Leader's information?	No. You need to pick their brains and get the purchasing managers' input and you came from a different industry.
D. Problem structure?	No. You don't know what the policy should be for this company with regard to their raw materials. The company has little familiarity with centralized solutions and policies.
E. Commitment probability?	No. You are an unproven newcomer trying to exert authority over employees who report directly to someone else.
F. Goal congruence?	No. The purchasing managers will probably resist giving up their power to make autonomous decisions, and their primary allegiance may lie with their plant than with Headquarters.

Therefore, the model predicts that the CIL, sharing the problem in a group meeting to obtain their ideas and suggestions and then making the decision alone, will be the most effective style for handling this situation.



## PROCEDURE FOR GROUP MEETING

The purpose of the group exercise is to provide an opportunity to practice using the decision tree and identify and discuss reasons for differences between what the model recommends and your own decision-making style.

**STEP 1.** Each learning group should record its answers to the five cases on the chalkboard or flipchart so that all members can view the results. The following Case Analysis Record Form provides a format for recording the data.

**STEP 2.** The learning groups should work through the decision tree on the preceding page for each case and arrive at a group recommendation (30 minutes). Trace your decision steps with a different color for each case or utilize a different tree for each one.

**STEP 3.** Each group should post its recommended leadership style for each case on the board.

**STEP 4.** The instructor takes the class through the cases using Vroom and Yetton's guide, answering the diagnostic questions for each case as they did. (See page 348.) Please pay attention to how your group's answers differ from the Vroom-Yetton model. At the end of each case, discuss how and why your group recommendations differed from the model. The point of this exercise is to learn from a comparison of your answers.

(15-20 minutes)

- STEP 5. The class discussion should focus on these questions. (20 minutes)
- Sometimes students end up with different answers than Vroom and his colleagues because of assumptions they have made about the decision. Can you identify any assumptions you made in the cases?
  - What assumptions does the model make?
  - What factors are missing from this model?
  - What did you learn about your natural decision-making style from this exercise?
  - What connections can you make with the readings?

Case Analysis Record Form

Participant Names	Case 1	Case 2	Case 3	Case 4	Case 5
Group recommendations after using the decision tree					
Vroom et al.'s recommendations					



A normative model, such as the leader-participation model, raises three questions: (1) When managers utilize this model, how likely are their decisions to be effective? (2) Do managers really make decisions in this manner? (3) If not, why not?

First, research has shown that when managers choose one of the alternatives within the feasible set, a greater percentage of their decisions was found to be effective.<sup>17</sup> In six studies, when managers used the leadership style indicated by the model, 62 percent of their decisions were effective; when they did not, only 37 percent of their decisions were successful.<sup>18</sup> Another study of 45 retail cleaning franchises revealed that managers whose leadership behaviors conformed to the leadership-participation model had more satisfied employees and more profitable operations than other managers.<sup>19</sup>

Second, research comparing the leadership-participation model with the actual behavior of managers has shown that there is a general correspondence between the model recommendations for a specific situation and a manager's behavior in that situation. Vroom and Jago report, "In approximately two-thirds of the problems, nevertheless, the behavior which the manager reported was within the feasible set of methods prescribed for that problem, and in about 40 percent of the cases it corresponded exactly to the minimum person-hours solution."<sup>20</sup> Thus, managers seem to be using an intuitive notion similar to the leader-participation model to manage the decision-making process in their organizations. In some ways, however, the differences between model recommendations and managerial behavior are more interesting, because they shed light on the assumptions on which the model is based and on particularly difficult issues in managing the decision-making process.

For example, when we have asked managers how they would solve the engineering work assignment case described in the prework for this unit, many of them chose an AI or All decision. Most resisted strongly the idea of bringing the group together for decision making either in the CII or GII modes. Vroom et al.'s GII solution brought cries of "No way!" or "It will never work!" Further discussion of differences between individual styles and the GII decision recommendations raised some interesting comments and assumptions:

- "The group wouldn't be able to deal with a difficult problem like this."
- "I wouldn't know how to control the conflict this situation creates if it became a group decision."
- "In most groups the members would expect the manager to make this decision, and they would have to live with it."

These comments bring out some of the assumptions underlying the leader-participation model and, hence, define some of the problems in its application. These assumptions are:

1. Managers are equally skilled in using the different decision-making alternatives.
2. Groups are equally skilled in their adaptation to these decision-making alternatives.
3. Organizational history and the resulting organizational culture have no impact on a single decision analyzed by the model.

What the model does is analyze a specific decision dispassionately in terms of its outcome requirements without regard to the preceding assumptions about managerial and group skill or organizational culture. Yet in any specific situation, these issues must be considered to ensure that decisions are effective.

In conclusion, we suggest the following considerations in applying the leader-participation model to actual managerial situations:

1. Intuitive managerial decision-making models are more simplified than the leader-participation model. They do not account for some of the interactions among decision rules portrayed in Figure 15-1. This is supported by the research of Vroom and his colleagues.
2. Managers tend to underestimate the importance of the acceptance and commitment components of decision effectiveness. This is also supported by Vroom and his colleagues' research.



3. Managers tend to use decision-making styles they are skilled at and avoid styles they feel uncomfortable with. For many, this means avoiding the more difficult group decision-making procedures.
4. Organizational history and culture will affect the decision-making method chosen, independent of the logical dictates of the situation. Organizational culture affects decision making in several ways:
  - a. Group members will adjust to norms about "the way things are decided around here" and may have little experience or skill using other styles, such as group consensus.
  - b. Managers may use a particular decision-making method because their boss uses it and be constrained in their flexibility of decision making by the style dictated from above. If your boss is autocratic with you, it may be more difficult to be participative with your own subordinates. The boss may neither understand or appreciate a style different from his or her own.

These considerations suggest that the leader-participation model is useful in determining how the decision-making process should be conducted, but the application of this ideal requires managerial skill training in all of the decision-making methods, team development in the various forms of group decision making, and organizational development to create norms that value quality, acceptance, and efficiency as the primary criteria for effective decision making. See Table 15-3 for realities in organizational decision making and suggestions for dealing with them.

**TABLE 15-3** Some Apparent Realities of Decision Making in Complex Organizations

Some Things Individual Managers Cannot Expect to Do Much About	Some Things Individual Managers Can Do	Some Things the Organization Can Do
<p>The fact that decision making in organizations is not a totally rational, orderly process</p> <p>The nature of managerial work: the juggling of problems and conflicting demands</p> <p>People are flawed: They are limited information processors, have biases and emotions, and develop vested interests</p> <p>Fundamental forces in the business environment</p> <p>Basic organizational components determined largely by the business one is in</p>	<p>Exercise choices in the problems to work on, which battles to fight and where, and when to cut losses</p> <p>Develop intimate knowledge of the business and good working relationships with the people in it</p> <p>Know yourself: Know your strengths, weaknesses, and hot-buttons, and when to ask for help</p> <p>Develop the diverse set of skills necessary to act in different situations</p>	<p>Set values and tone to support problem solving and risk</p> <p>Design organizational structure, reward, and control systems to support action rather than bureaucracy</p> <p>Provide assignments in which decision-making skills can be developed</p> <p>Keep business strategy focused on areas about which management is knowledgeable</p>

Source: M. M. McCall and R. E. Kaplan, *Whatever It Takes: The Realities of Managerial Decision Making* (Upper Saddle River, NJ: Prentice Hall, 1990) 120. Reprinted by permission of the publisher.

### UPDATED VERSION

Vroom and Jago<sup>21</sup> developed a more sophisticated version of this theory that includes four new contingencies: time constraints, geographical dispersion (which acknowledges the difficulty of getting people together for a discussion), motivation to minimize the time needed to make the decision (so that time can be devoted to more pressing items), and motivation to develop subordinates. The new version utilizes a continuum ranging from 1 to 5 rather than a simple yes or no

response to each question. It has four decision trees, two for group decisions and two for individual decisions. At the individual and group level there are separate trees for use when decisions must be made quickly and when time is not such an important consideration.

The new model allows for greater situational complexity and is designed to be used with a computer program. Neither the leadership styles nor the premises underlying the original questions have changed significantly, but the increased sophistication of the model makes it too complex for our teaching purposes in this course.

The leader-participation model gives us a partial answer to the question, "What are the pros and cons of group decisions?" The advantages are more complete information and knowledge, diverse views, increased commitment to the decision, and the increased legitimacy of a democratic decision. However, group decisions can also be time-consuming and overly influenced by conformity pressures or a dominant person or subgroup.

## THE ZONE OF INDIFFERENCE AND CULTURAL DIFFERENCES IN DECISION MAKING

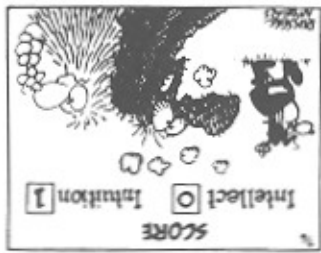
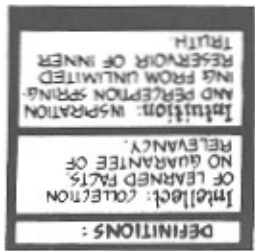
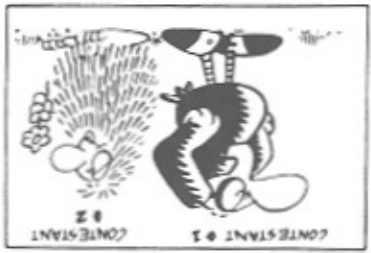
Chester Barnard, one of the first management writers, introduced the concept of the "zone of indifference."<sup>22</sup> Employees willingly accept decisions made by their boss on topics that fall within their zone of indifference (e.g., the font of the lettering on the new office stationery). Asking for participation on such topics wastes employee time and can even frustrate employees ("How can we get our work done if management keeps bugging us with stupid little decisions? Don't they get paid to make decisions?"). However, employees do want to have a voice in decisions that lie outside their zone of indifference. For example, a U.S. consultant redesigning a department in a Guatemalan agency repeatedly asked employees for their input on the new systems and processes. They rubber-stamped whatever she proposed to them and seemed more than content to let her make all the decisions. However, the employees revolted when she and the director surprised them by replacing their traditional desks with new workstations that inadvertently prevented them from being able to see and talk to other employees. Unlike the consultant's previous decisions, the new workstations did not fall into the employees' zone of indifference. She took measures to make the workstations more palatable for the employees, regaining some of the social credit she'd lost with the employees. However, it is always better to avoid causing rebellions in the first place—understanding what falls inside and outside the zone of indifference for one's employees is an important managerial competency.

In terms of the leader-participation model, the zone of indifference relates to the diagnostic question, "If you were to make the decision by yourself, is it reasonably certain that your subordinates would be committed to the decision?" This question will be answered differently in different settings as well as different cultures. For example, in high power distance cultures (e.g., Korea), employees are less likely to expect to influence decisions and more likely to expect bosses to make autocratic decisions. Their zone of indifference will be larger. Participative decision making is more likely in cultures with low power distance, as well as in individualistic cultures in which individual opinions are valued (e.g., the United States). As the global labor force becomes more educated, however, employees may expect to be consulted more frequently about decisions at work.

Japan is noted for *ringisei*, decision making by consensus. Proposals in document form are circulated for approval among employees before a decision is implemented. Thus, employees can voice an opinion before a manager makes the final decision. *Ringisei* is time consuming up front, but this participative process eliminates resistance to decisions, thereby improving implementation quality and speed.<sup>23</sup>

As we noted in the chapter on problem solving, cultures vary in terms of how accepting or proactive they are with regard to problems that may require decisions. Fatalistic cultures are more accepting of situations and, therefore, usually slower to make a decision to resolve a problem. The alternatives considered in the decision-making process are also affected by cultural values.

# BROOM HILDA



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Cultures oriented to the past (e.g., England) are more likely to make decisions in keeping with tradition and precedents. Present-oriented cultures (e.g., the United States) focus on short-term solutions. Future-oriented cultures (e.g., Japan) are more likely to focus on long-term solutions. Innovative solutions are generally welcomed and more accepted in cultures that are less tied to the past.

## INTUITION AND DECISION MAKING

Cultures also vary in the way they search for information pertaining to a decision, which relates to the value given to rationality. In the United States, where rationality is highly valued, even intuitive decisions may be couched in rational terms so they are more readily accepted. Other cultures (e.g., Sweden) are more comfortable with intuitive decision making. Cultures that value rationality rely more on their senses (facts) while others rely on intuition (ideas, images, and possibilities). Before the Yom Kippur War in 1973, the U.S. experts, relying on facts, predicted that less than 8 million Israelis could not prevail against 100 million Arabs. The Israelis, who succeeded in spite of these odds, relied on their intuition and focused on the image of the continued existence of their country.<sup>24</sup>

There is a growing recognition that rational analysis has been overemphasized in U.S. business. Intuition is becoming more acceptable in the workplace. In a recent study, two-thirds of professionals interviewed stated that intuition led to better decisions.<sup>25</sup> Intuitive skills are usually developed through experience or working with people who have intuitive qualities. Intuition is a "cognitive conclusion based on a decision maker's previous experiences and emotional inputs."<sup>26</sup> Thus, intuition and rational analysis are complementary aspects of good decision making.

1. Individual decisions are not independent, solitary events. Instead they are closely connected to previous decisions and are influenced by the process that brought the decision point to a head. Although decision making at very high levels is frequently characterized as a lonely, individual struggle, decision making is also a social process. Decision making involves information sharing and interdependence among organization members. The manager's job is to manage the decision process by assessing which information and which players need to be involved.
3. The model of rational decision making is an outgrowth of classical economics, but the decision-making process is seldom completely rational.
4. The theory of bounded rationality maintains that people are restricted in making decisions and settle for less than ideal solutions. They satisfy, selecting the first alternative that is satisfactory.
5. In the garbage can model, four factors—problems, participants, solutions, and choice opportunities—all float randomly inside the organization, described metaphorically as a garbage can. If they connect, a decision results.
6. When people support riskier decisions in a group setting than they would individually, this is called the risky shift. When the group decision is more conservative than individual positions, this is the cautious shift.
7. Groupthink refers to the tendency for members of a highly cohesive group to seek consensus so strongly that they fail to do a realistic appraisal of other alternatives, which may be more correct.
8. Escalation of commitment occurs when people continue to commit resources to a failing course of action.
9. The leader-participation model is a contingency theory of leadership. The continuum of leadership styles includes autocratic, consultative, and group decisions.
10. The choice of leadership style affects these outcomes of the decision-making process:
  - a. The quality or rationality of the decision.
  - b. The commitment on the part of subordinates to execute the decision effectively.
  - c. The amount of time required to make the decision.
  - d. The development of the group or team.
11. Utilizing groups to make decisions involves more time but results in greater acceptance of the decision and more likelihood of successful implementation.
12. Structured problems are repetitive and routine problems for which a definite procedure has been developed. Unstructured problems are novel, with no procedures to handle them because they are infrequent and/or complex.
13. The leader-participation model helps managers analyze specific decision situations and determine which leadership styles are most appropriate by diagnosing these factors: quality and commitment requirements, source of necessary information, type of problem (structured or unstructured), commitment probability, and subordinate goal congruence and conflict.
14. Managers whose leadership behavior approximates the model are more likely to make effective decisions than managers whose behavior does not conform to the model.
15. Employees willingly accept decisions made by their boss on topics that fall within their zone of indifference. They want to participate, however, in decisions that fall outside that zone.
16. Intuition is a "cognitive conclusion based on a decision maker's previous experiences and emotional inputs." Intuition and rational analysis are complementary aspects of good decision making.

- One of the most important factors for a manager to bear in mind when decisions are being made is the concept of setting precedents. If you want to establish a reputation for fairness, it's worthwhile to consider whether you would want a given decision to be a guide for future ones. The criteria used for making any decision should reflect the cultural values you are trying to promote within the organization.
- Some decisions eventually become obvious with time. The trick lies in knowing which decisions (or which parts of them) can be postponed and which need to be made immediately. This is learned by experience.
- Because decision making is learned by experience, it's desirable to start employees out making decisions at the lowest possible level. Too often the first decisions employees get to make are when they are promoted to supervisor and find themselves overwhelmed. Teaching employees good decision-making techniques, explaining why you made the decision you did, asking what decision they would make in your shoes, and delegating as many decisions as possible are all ways to develop good decision makers before they find themselves in the hot seat.
- Decisions are only as good as the information on which they are based. Therefore, it's important to have reliable and accurate information sources. In some organizations the higher one goes, the more difficult it is to have accurate information because people are busy telling you either what they think you want to hear or information that reflects well upon them. Kotter found that the aggressiveness with which managers sought out information distinguished effective managers from less effective ones.<sup>27</sup>
- Test the water about possible solutions with carefully chosen people such as informal opinion leaders, greybeards (wise, older employees), and powerful people who are interested in the issue. Yes-men and -women and people with a narrow perspective or a self-serving approach are obviously not good choices.
- It is not uncommon to have second thoughts about decisions. Indeed, it's a natural cognitive phenomenon called cognitive dissonance. Knowing this can help you be more patient when employees (or even you) have second thoughts, even when a decision seemed to be final and everyone was in agreement.
- People can only process so much information because our brains have limited capacity. Furthermore, it is sometimes impossible to have all the information that is needed to make a good decision. Thus, there is often an element of ambiguity involved with decision making. People have different tolerance levels for ambiguity, which affects their decision-making process.
- Part of the psychological contract regarding employee input on decisions concerns the manager's response. When managers request input from employees, they "owe" them the courtesy of explaining what the final decisions were and why the employee suggestion was or was not used. When managers do not do this, employees are likely to say, "I don't know why I bothered; they just went ahead and did what they wanted to anyway." In the future, such employees may be less forthcoming with suggestions. However, when managers do explain how decisions were made and why an employee suggestion could not be used, they are both recognizing the employee's contribution and training him or her to make decisions in the future. Employees are not always aware of the broader contingencies their managers face. Sharing the rationale behind decisions is a way to develop employees.
- Don't let a disruptive debate over a decision drag on too long. When a group cannot come to an agreement after a reasonable amount of time, its members may be relieved if the manager steps in and makes the decision.



The topic of this assignment is to think back on a decision-making experience that was significant for you. Choose an experience that intrigues you and that you want to learn more about. One possibility is to analyze a previous decision using the leadership-participation model.

**A. Concrete Experience**

1. Objectively describe the experience (who, what, when, where, how information). (2 points)
2. Subjectively describe your feelings, perceptions, and thoughts that occurred during (not after) the experience. What did others seem to be feeling? (2 points)

**B. Reflective Observation**

1. Looking back at the experience, what were the perspectives of the key actors (including you)? (2 points)
2. Why did the people involved (including you) behave as they did? (2 points)

**C. Abstract Conceptualization**

1. Relate concepts or theories from the assigned readings or the lecture to the experience. Explain thoroughly how they apply to your experience. Please apply at least two concepts or theories and cite them correctly. (4 points)

- D. Active Experimentation**
1. What did you learn about decision making from this experience? (1 point)
  2. What did you learn about yourself? (1 point)
  3. What action steps will you take to be more effective in the future? (2 points)

- E. Integration, Synthesis, and Writing**
1. Did you integrate and synthesize the four sections? (1 point)
  2. Was the Personal Application Assignment well written and easy to understand? (1 point)
  3. Was it free of spelling and grammatical errors? (2 points)

**Decision-Making Case Answers**

Case	QR	CR	U	ST	CP	GC	CO	SI	Style
	Quality Requirement	Commitment Requirement	Leaders' Information	Structured	Commitment Probability	Goal Congruence	Subordinate Conflict	Subordinate Information	
1	High	Low	No	No	No	No			CI
2	High	High	No	No	No	No			CI
3	Low	High	No	Yes	No	No			GII
4	High	High	No	Yes	No	No			CI
5	High	Low	Yes						AI

<sup>1</sup> This unit is based on the research of Victor Vroom and his colleagues Phillip Yettton and Arthur G. Jago. Cases used with permission of the University of Pittsburgh Press and the American Institute for Decision Sciences. Further information about training programs based on the model can be obtained from Kepner-Tregoe Associates, Inc.

<sup>2</sup> P. C. Nutt, "Surprising But True: Half the Decisions in Organizations Fail," *Academy of Management Executive* 24, no. 4 (1999): 75-89.

<sup>3</sup> E. Barback, *The Implementation Game* (Cambridge, MA: MIT Press, 1977).

<sup>4</sup> H. A. Simon, *Administrative Behavior* (New York: Free Press, 1976).

<sup>5</sup> V. Haller, "Baby Juice Scam Nets Executives Fine, Prison Time," *Mesa Tribune* (June 17, 1988): A10, 3.

<sup>6</sup> C. E. Lindholm, "The Science of Muddling Through," *Public Administration Review* (Spring 1959): 79-88.

<sup>7</sup> M. D. Cohen, J. G. March, and J. P. Olsen, "A Garbage Can Model of Organizational Choice," *Administrative Science Quarterly* 17 (1972): 1-25.

<sup>8</sup> J. A. F. Stoner, "Risky and Cautious Shifts in Group Decisions: The Influence of Widely Held Values," *Journal of Experimental Social Psychology* 4 (1968): 442-59; N. Kogan and M. A. Wallach, "Group Risk Taking as a Function of Members' Anxiety and Defensiveness," *Journal of Personality* 35 (1967): 50-63.

<sup>9</sup> D. G. Myers and H. Lamm, "The Group Polarization Phenomenon," *Psychological Bulletin* 83 (1976): 602-27; M. E. Kaplan, "The Influencing Process in Group Making," in *Group Processes*, ed. C. Hendrick (Newbury Park, CA: Sage, 1987).

<sup>10</sup> L. Janis, *Victims of Groupthink* (Boston: Houghton-Mifflin, 1972) and *Groupthink* (Boston: Houghton-Mifflin, 1982). See also G. Whyte, "Groupthink Reconsidered," *Academy of Management Review* 14 (1989): 45-56.

<sup>11</sup> Janis, *Victims of Groupthink* and *Groupthink*.

<sup>12</sup> J. K. Esser, "Alive and Well after 25 Years: A Review of Groupthink Research," *Organizational Behavior and Human Decision Processes* 73, no. 2/3 (1998): 116-41; S. R. Fuller and R. J. Aldag, "Organizational Tonygandy: Lessons from a Quarter Century of the Groupthink Phenomenon," *Organizational Behavior and Human Decision Processes* 73, no. 2/3 (1998): 163-84; M. E. Turner and A. R. Pratkanis, "Twenty-Five Years of Groupthink Theory and Research: Lessons from the Evaluation of a Theory," *Organizational Behavior and Human Decision Processes* 73, no. 2/3 (1998): 105-15; and R. M. Kramer, "Revisiting the Bay of Pigs and Vietnam Decisions 25 Years Later: How Will Has the Groupthink Hypothesis Stood the Test of Time?" *Organizational Behavior and Human Decision Processes* 73, no. 2/3 (1998): 236-71.

<sup>13</sup> B. M. Staw, "Commitment in an Experimenting Society: An Experiment on the Attribution of Leadership from Administrative Scenarios," *Journal of Applied Psychology* 65 (1980): 249-60.

<sup>14</sup> V. H. Vroom and A. G. Jago, *The New Leadership: Managing Participation in Organizations* (Upper Saddle River, NJ: Prentice Hall, 1988).

<sup>15</sup> V. H. Vroom and P. Yettton, *Leadership and Decision Making* (Pittsburgh, PA: University of Pittsburgh Press, 1973); and Vroom and Jago, *The New Leadership*. See also V. H. Vroom and A. G. Jago, "Situation Effects and Levels of Analysis in the Study of Leader Participation," *Leadership Quarterly* 6, no. 2 (1995): 169-81; and V. H. Vroom, A. G. Jago, D. Eden, P. W. Yettton, and J. F. Craig, "Participative Leadership," in F. Dansereau and F. J. Yammarino, eds., *Leadership: The Multiple-Level Approaches: Classical and New Wave* 24 (Stanford, CT: JAI Press, 1998), pp. 145-89.

<sup>16</sup> A version of this case appears in Vroom and Jago, *The New Leadership*, pp. 166-168.

<sup>17</sup> R. H. Field and R. J. House, "A Test of the Vroom-Yettton Model Using Manager and Subordinate Reports," *Journal of Applied Psychology* 75 (1990): 362-70.

<sup>18</sup> Vroom and Jago, *The New Leadership*, p. 79.

<sup>19</sup> C. Margerison and R. Glube, "Leadership Decision Making: An Empirical Test of the Vroom and Yettton Model," *Journal of Management Studies* 16, (1979): 45-55.

<sup>20</sup> Vroom and Jago, "Decision Making as a Social Process: Normative and Descriptive Models of Leader Behavior," *Decision Sciences* 5 (1974): 754.

<sup>21</sup> Vroom and Jago, *The New Leadership*.

<sup>22</sup> C. Barnard, *The Functions of the Executive* (Cambridge, MA: Harvard University Press, 1938).

<sup>23</sup> W. Ouchi, *Theory Z: How American Businesses Can Meet the Japanese Challenge* (New York: Avon, 1989).

<sup>24</sup> N. J. Adler, *International Dimensions of Organizational Behavior*, (Cincinnati: South-Western, 1997).

<sup>25</sup> L. A. Burke and M. K. Miller, "Taking the Mystery Out of Intuitive Decision Making," *Academy of Management Executive* 13, no. 4 (1999): 91-98.

<sup>26</sup> *Ibid.*, p. 93. For an interesting discussion of intuitive decision making, see G. Klein, *Sources of Power: How People Make Decisions* (Cambridge, MA: MIT Press, 1999).

<sup>27</sup> J. Kotter, *The General Managers* (New York: Free Press, 1982).

<sup>1</sup> This unit is based on the research of Victor Vroom and his colleagues Phillip Yettton and Arthur G. Jago. Cases used with permission of the University of Pittsburgh Press and the American Institute for Decision Sciences. Further information about training programs based on the model can be obtained from Kepner-Tregoe Associates, Inc.

<sup>2</sup> P. C. Nutt, "Surprising But True: Half the Decisions in Organizations Fail," *Academy of Management Executive* 24, no. 4 (1999): 75-89.

<sup>3</sup> E. Barback, *The Implementation Game* (Cambridge, MA: MIT Press, 1977).

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