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THEORY
AND
PRACTICE

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CHAPTER 12

THE DECISION- MAKING PROCESS

GOALS OF THE CHAPTER

Decision making in organizations is both an objective and a subjective process. On the one hand, it involves the identification of goals and the formulation of an orderly, efficient process for attaining them. On the other hand, there are human characteristics of the decision maker that encourage expediency, shortcuts, and the acceptance of less-than-ideal alternatives. Meanwhile, in the actual process of making decisions, managers use different styles or approaches. The goal of this chapter is to examine models and styles of decision-making behavior for the purpose of determining how both organizational and personal decisions are made. When you are finished reading this chapter, you should be able to

1. distinguish between prescriptive and descriptive decision theory;

2. define the term rationality as it applies to decision making;
3. describe the decision-making steps in an econologic model;
4. identify the shortcomings of the econologic model;
5. describe the decision-making steps in a bounded rationality model;
6. discuss the accuracy of the bounded rationality model;
7. relate the roles played by simplification, subjective rationality, and rationalization in the decision-making process;
8. describe typical decision-making styles and relate the role of right-brain and left-brain hemisphere functions.

BASIC DECISION-MAKING TERMINOLOGY

Decision making is the process of choosing from among alternatives. This activity is important to an understanding of organizational behavior because choice processes play a vital role in communication, motivation, leadership, and other aspects of individual, group, and organizational interfaces. Before we examine decision making in an organizational behavior context, however, it is important to have a clear understanding of some basic decision-making terminology, including the differences between prescriptive and descriptive theory and what is meant by the term rationality.

Decision making is the process of choosing from among alternatives.

Prescriptive and Descriptive Theories

When people talk about decision theory, it is common for them to intermix prescriptive theory and descriptive theory. **Prescriptive theory** attempts to explain how decision making *ought* to be carried out. It is a normative approach that outlines steps to be followed and critical questions that should be considered. Illustrations of the latter include: Is this an optimal decision, and if not, how can it be improved? How should a rational decision maker go about formulating alternatives and making a final choice? In an overall organizational setting, how should decisions be made?

Prescriptive theory relates how decisions ought to be made.

Descriptive theory is concerned with describing how decisions are *actually* made. Many times decision making is influenced by subjective factors, such as the individual's personality or the pressure of the situation. As a result, the way the manager ought to make a decision (prescriptive theory) and the way he or she does (descriptive) can be quite different. Descriptive theory is concerned with answering such questions as: What factors influence the behavior of the decision maker? What decisions are actually being made in the organization? How did these decisions turn out? In this chapter, we are going to be initially concerned with prescriptive theory and then turn our attention to descriptive theory. Before doing so, however, a discussion of rationality in decision making is in order.

Descriptive theory relates how decisions are actually made.

Rationality In Decision Making

Anytime we discuss decision making there is the implied presence of *rationality*. Yet there is a great deal of disagreement regarding exactly what this term means. Some writers have identified as many as six different types of rationality.¹ For our purposes, three will do in both describing the term and explaining why it is relevant to a discussion of decision making and organizational behavior.

Rationality can be defined in various ways.

One way to define rationality is to use *economic* terms and consider a rational decision as one which *objectively maximizes* one's advantage. For example, if an organization has \$50,000 in extra cash, which it does not intend to invest in capital resources for the next year, there are a number of short-run decision alternatives: (a) invest the money in government notes, (b) put it in a commercial savings account, or (c) deposit it in a savings and loan institution. By merely computing the rate of return from each of these alternatives, the manager can determine the one that will provide the greatest payoff.

Some people disagree with the above objective economic reasoning, feeling that decisions are also rational when the individual chooses a course of action that is "personally acceptable," *regardless* of whether it can be objectively measured. For example, a salesperson may choose to put 5 percent of his gross income into a retirement annuity in order to guarantee a fixed income in later years. Had the individual opted for a mutual fund or the direct purchase of General Motors stock, he might well end up with more money. However, the individual is a low risk taker and prefers a "sure thing." As a result, personal values lead him to make a conservative, subjective judgment. He may not maximize his income, but for his purposes he certainly has made a logical or rational decision.

A third way of viewing rationality is simply to examine the decision process *itself and determine* if it is *orderly* and *logical*. Does it follow a systematic, sequential flow that moves the decision maker from problem identification to resolution? If it does, it is rational.

The first of these definitions is often used by people who feel the decision maker should be an **economic man**, who always *maximizes* outcomes. The second is more subjective and implies that the decision maker is often an **administrative man**, who chooses alternatives that are *satisfactory* or "good enough." Our third definition can be used by *both* economic and administrative man. The model that best represents economic perspective is the econological model, while the administrative perspective is best explained by means of the bounded rationality model.

1. Herbert A. Simon, *Administrative Behavior*, 3rd ed. (New York: The Free Press, 1976), pp. 76-77.

THE ECONOLOGIC DECISION-MAKING MODEL

The **econologic decision-making model** proceeds from the basic assumption that people are economically rational and attempt to maximize outputs in an orderly and sequential process. These steps have been outlined in various ways by different authors.² All, however, seem to agree that decision making involves: (a) an identification of the problem to be solved or goal to be reached, (b) a listing of the various alternatives that can be employed in accomplishing this mission, (c) a determination of the expected results from each alternative, and (d) a comparative evaluation of the results for the purpose of choosing the best one. Most authors of these econologic models also contend that not only is each step in the process indispensable, but also one must proceed in the specified order, since each step receives inputs from the prior one and provides outputs for use in the next succeeding step. Actually this line of reasoning is a little too inflexible for practical use. As Kast and Rosenzweig have noted, the steps "normally are not as discrete as a list would indicate. Much of the decision making activity goes on simultaneously."³ Nevertheless, for purposes of analysis, we shall examine the decision-making process as a series of interrelated steps that, for the most part, do tend to be sequential in nature.

The econologic model assumes economic rationality

Econologic Decision-Making Process

Depending upon how detailed one would like to be, the econologic decision-making process can contain as few as 4 or as many as 10 specific steps. For our purposes we shall use 7:

1. Uncover the symptoms of the problem or difficulty.
2. Identify the specific problem to be solved or goal to be realized.
3. Develop a decision criterion for evaluation purposes.
4. Develop and list all alternative solutions.
5. Determine the outcomes of all these alternative solutions.
6. Select the one best course of action.
7. Implement this decision.

Steps in the econologic decision-making process

2. See, for example: Richard M. Hodgetts, *Management: Theory, Process, and Practice*, 3rd ed. (Hinsdale, IL: Dryden Press, 1982), p. 194.

3. Fremont E. Kast and James E. Rosenzweig, *Organization and Management: A Systems and Contemporary Approach*, 3rd ed. (New York: McGraw-Hill, 1979), p. 351.

These steps, illustrated in Figure 12-1, provide a representation of econologic models in general.

Symptoms are uncovered.

UNCOVER THE SYMPTOMS. The first step in the decision-making process is to uncover the symptoms. Every problem has an accompanying symptom. The business manager who finds his employees reporting late for work is seeing only the symptom of some underlying problem such as his failure to go to bat for them with top management on some matter relevant to working conditions. The hospital administrator who is being faced with the loss of three of her department administrators may be witnessing a symptom caused by her failure to approve competitive salary increases for these personnel. In each case, the problem eventually manifests itself through symptoms.

Problems of goals are determined.

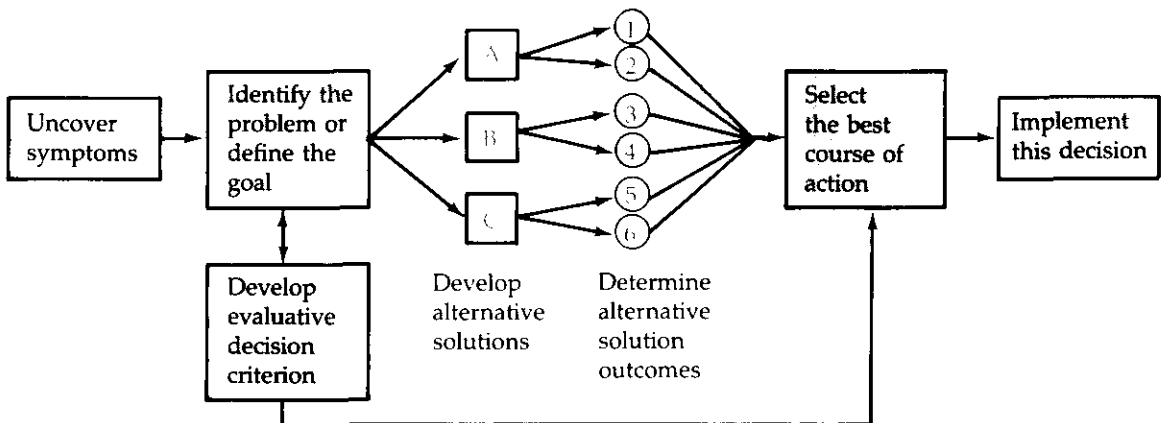
IDENTIFY THE PROBLEM OR DEFINE THE GOAL. Having identified the symptoms, the manager's next step must be that of identifying the problem to be solved or the goal to be realized. In short, what needs to be done? The answer to this question will establish the overall direction of the decision-making process. Therefore, the manager must be careful to avoid confusing symptoms and causes. One way of doing so is to go beyond the symptom to the problem itself by asking *why* the symptom arose.

A decision criterion is established.

DEVELOP DECISION CRITERION FOR EVALUATION PURPOSES. In an econological model, the decision maker develops a criterion for evaluating the alternative courses of action; this is done at the same time that the problem is being defined or the goal is being stated. This criterion, whenever possible, is stated in objective terms so that the decision maker can arrive at a definite decision. For example, if alternative A is an investment that will return 10.6 percent annually, while alternative B will return 10.8 percent, obviously B is the best choice. By defining the criterion in objective terms such as the dollar impact, the decision maker reduces the decision to

FIGURE 12-1

An econological model



simple, rational logic. In our illustration of the manager who refused to go to bat for his workers, the criterion is somewhat more involved because it entails a comparison of the costs involved in both time and expense to make the changes in the work place desired by the employees with the added revenues and reduced costs associated with the employees coming to work on time. Meanwhile, in the case of the hospital administrator, the decision maker must compare the cost of giving her three department heads the raises they want with the expenses associated with hiring and training replacements. When objective criteria cannot be developed, it is common to find econologic models using basic economic concepts, such as preference or indifference curves, in an attempt to quantify qualitative criteria. Such approaches, of course, are used only as last resorts.

DEVELOPMENT OF ALL ALTERNATIVE SOLUTIONS. In this stage, the decision maker lists the possible solutions. Some, of course, may be highly unrealistic because they are long shots (a million to one likelihood) or would result in ridiculous results (an alternative with an expected value of minus \$1 million). Nevertheless, they are placed on the list of possible outcomes. Meanwhile, if the problem or objective requires creativity, such as formulating an advertising campaign for a new product, techniques such as brainstorming may even be employed. But keep in mind that economic rationality is going to govern this process, so as little time as possible will be squandered on the formulation of overly creative or exaggerated alternatives.

Alternative solutions are developed.

DETERMINE ALL ALTERNATIVE SOLUTION OUTCOMES. Once all the alternatives have been identified, it is necessary to measure objectively their payoffs. This is done under one of three conditions: *certainty*, *risk* or *uncertainty*, thereby plunging the manager into the area of quantitative decision making. While an in-depth quantitative analysis of alternative solutions is beyond our present concern, a brief examination of this selection process is worth a cursory view because such an objective approach is highly regarded by managers who are economic men.

Alternative solution outcomes are determined.

For purposes of illustration, assume that Company A has formulated three plans—Plan 1, Plan 2, and Plan 3—in an effort to achieve a goal of profit maximization. Furthermore, by gathering all of the data possible through external surveillance, it has determined that its major competitor has formulated three major strategies (which, for purposes of simplicity, we shall merely label Strategy 1, 2, and 3, respectively). Comparing its three plans against those of the competition, Company A has constructed the matrix shown in Table 12-1. The matrix reveals that if the competition adopts Strategy 1 and Company A opts for Plan 1, the latter will gain \$20,000. If the competition chooses Strategy 2, the company will gain \$4,000 with Plan 1; and if the competition goes with Strategy 3, Plan 1 will return \$15,000 to the firm. This same reasoning applies in interpreting the remainder of Table 12-1.

		Competition		
		Strategy 1	Strategy 2	Strategy 3
Company A	Plan 1	20	4	15
	Plan 2	10	25	9
	Plan 3	6	11	30

If Company A's information allows it to know *exactly* what the competition will do, the firm is operating under conditions of **certainty**. In this case, the decision is quite simple. If the competition chooses Strategy 1, the firm should go with Plan 1. If the opposition elects Strategy 2, then Plan 2 is the proper countermove; and if Strategy 3 is going to be employed, then the company should choose Plan 3. A close look at Table 12-1 will illustrate that, given the competition's available strategy, each of our respective choices would maximize profit.

Of course, organizations seldom operate under certainty. Usually we have some idea of what the competition is likely to do, but we cannot say for sure. In this case, the organization is operating under **risk** conditions, in which there is a calculable probability of gain or loss. For example, what is the probability that the competition will opt for Strategy 1? Let us assume that on the basis of its information, Company A assigns a probability of 20 percent. Meanwhile, for Strategies 2 and 3, it assigns likelihoods of 60 percent and 20 percent, respectively. Given this data, for which of the three alternative plans should the company opt? To answer this, we must compute the *expected value* of each plan, which is determined by multiplying the profit payoff from each plan and competitive strategy by the probability associated with each of these payoffs, and then totaling the results for each of the three plans. Doing so results in the following:

$$\text{Expected Value Plan 1} = 20(0.2) + 4(0.6) + 15(0.2) = 9.4$$

$$\text{Expected Value Plan 2} = 10(0.2) + 25(0.6) + 9(0.2) = 18.8$$

$$\text{Expected Value Plan 3} = 6(0.2) + 11(0.6) + 30(0.2) = 13.8$$

Given the above information, Company A should opt for Plan 2.

In some situations, the organization will be at an impasse in assigning probabilities of gains or losses. In such cases, the decision maker is operating under **uncertainty** and needs to turn to criteria that have been developed for handling such situations. The most popular of these is the **maximin criterion**, in which the individual chooses the plan with the highest minimum payoff, regardless of the competition's strategy. Applying this logic to Table 12-1, we can see that the lowest company payoff for Plan 1 is \$4,000, for Plan 2 it is \$9,000, and for Plan 3 it is \$6,000. Following the

maximin criterion of choosing the highest minimum, the decision maker should select Plan 2.⁴

SELECT THE BEST ALTERNATIVE. Once the alternative solution outcomes have been determined, selection of the best one is simply a matter of comparing the net results against the decision criteria. In the case of return on investment, the manager need only answer the question, which alternative promises the highest ROI? Keep in mind, of course, that while this step is basically simple, it depends upon the mathematical techniques and probabilities assigned to the various alternatives in the previous step. An error in probability assignment can give one alternative a higher expected value than another, resulting in the selection of the wrong alternative.

The best alternative is selected.

IMPLEMENT THE DECISION. The final step in the decision-making process is to carry out the decision. This poses two possible pitfalls. One is that the personnel will make a mistake in bringing the process to fruition because of a misunderstanding about exactly how the action should be implemented. This is often a communication problem. The second is that the decision or strategy, despite all objective, rational analysis, will simply prove unworkable.

The decision is implemented.

If a strategy seems to be compatible with the mission of the organization and the environments within which the organization operates, it may prove to be very effective. In some instances, a strategy may have been systematically carried through all the steps illustrated thus far and fail. Faulty implementation of the strategy, competitive countersteps, and factors that have escaped the attention of the strategist may be the reason why a given strategy fails rather than actual flaws in the strategy design.

If a strategy cannot pass the empirical test of workability, it is of little value to an organization.⁵

Econologic Shortcomings

The econologic model we have just examined provides a very orderly, logical method for processing data and making decisions. Unfortunately, from an organizational behavior standpoint, it contains two major shortcomings.

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4. Other decision criteria often used under uncertainty include the maximax (in which the decision maker opts for the greatest payoff of all) and the LaPlace criterion (in which equal probabilities are assigned to all of the competition's strategies). For a more detailed description of decision making under uncertainty see Richard M. Hodgetts, *Management: Theory, Process, and Practice*, 3rd ed. (Hinsdale, IL: Dryden Press, 1982), pp. 201-202.
 5. Richard M. Hodgetts and Max S. Wortman, *Administrative Policy: Text and Cases in the Policy Sciences*, 2nd ed. (New York: John Wiley & Sons, 1979), p. 105.

The econologic model has numerous shortcomings.

First, for *strict* econologic model theorists there is the problem of obtaining *complete* information on *all* available alternatives and outcomes. Seldom can the decision maker identify all of the alternative actions for solving a particular problem, and even then knowledge of the consequences of each is always fragmentary.

Second, even in those econologic models that do not require full knowledge of all alternatives and outcomes, there is the problem of *processing capability*. For example, if a complex problem has six alternative solutions, the amount of data associated with each will probably be mind boggling. In order to make an economically rational decision, the manager will have to be capable of

1. mentally storing the information in some stable form;
2. manipulating it via a series of complex calculations designed to provide expected values;
3. ranking all of the consequences in some consistent manner for the purposes of deriving one preferred alternative.

Research reveals that the human mind is actually unable to meet these rigorous requirements. None of the main features of the econologic model are supported by available information. Thus, while the model provides useful insights into how people *should* make decisions, it fails to describe how they *actually* make them. A more realistic view is provided by the bounded rationality model.

THE BOUNDED RATIONALITY DECISION-MAKING MODEL

The bounded rationality model sees the decision maker as an administrative person.

The **bounded rationality decision-making model** presents the decision maker as an *administrative man* who has limited information-processing ability. As a result, the person's view of the alternatives and outcomes is restricted or bounded to varying degrees. Simon has explained the concept in this way:

When the limits to rationality are viewed from the individual's standpoint, they fall into three categories: he is limited by his unconscious skills, habits and reflexes; he is limited by his values and conceptions of purpose, which may diverge from the organizational goals; he is limited by the extent of his knowledge and information. The individual can be rational in terms of the organization's goals only to the extent that he is *able* to pursue a particular course of action, he has a correct conception of the *goal* of the action; and he is correctly *informed* about the conditions

surrounding his action. Within the boundaries laid down by these factors, his choices are rational—goal-oriented.⁶

Thus, while the individual would like to make the best decision, the final choice is usually something less than the ideal. This occurs for two reasons: (a) there is a lack of opportunistic surveillance, and (b) the decision maker usually employs satisficing behavior.

Lack of Opportunistic Surveillance

Ideally, the decision maker continually performs **opportunistic surveillance**, scanning the environment in a never-ending search to improve conditions. Is there a new product line the customer would like? How can we improve service to our clients? Are there some cost-cutting programs we can introduce that will improve overall efficiency?

Questions such as these are futuristic and designed to deal with problems and take advantage of opportunities before the need to do so becomes mandatory. In reality, however, decision makers seldom perform opportunistic surveillance. Most decision making is designed to deal with problems that demand immediate attention, since when things are going well, decision makers are not inclined to perform opportunistic surveillance.

Furthermore, it is common for individuals to begin problem solving by choosing the most obvious alternatives, only taking others into consideration if these initial choices prove inadequate. Thus, the totality of available alternatives is seldom examined, resulting in a decision-making process that is not only simpleminded but often downright biased. According to the bounded rationality model, the decision maker is a human being who wishes to make a good decision, but who is a far cry from the economic man in the economic model.

There is often a lack of opportunistic surveillance.

Use of Satisficing Behavior

The second major characteristic of decision making under bounded rationality is the use of **satisficing behavior**. By this we mean that the final alternative may not maximize outcomes, as would occur in an optimal solution, but it is *good enough* to meet minimum standards of acceptability. This is the usual approach taken by decision makers. March and Simon put it this way:

The decision maker commonly employs satisficing behavior.

6. Herbert A. Simon, *Administrative Behavior*, 3rd ed. (New York: The Free Press, 1976), p. 241.

Most human decision-making, whether individual or organizational, is concerned with the discovery and selection of satisfactory alternatives; only in exceptional cases is it concerned with the discovery and selection of optimal alternatives.⁷

Once the decision maker finds a satisfactory alternative, it is implemented. So for all practical purposes, the major question for the individual is, which alternative is most acceptable?⁸ The satisficing solution will provide a greater outcome for some people than for others because the latter are more selective and demand higher levels of acceptability. Research shows that if the individual has an easy time in discovering alternatives, the optimal decision will have higher standards (if not immediately, then in similar future problems) than if the person has a difficult time in finding satisfactory solutions.⁹ Applying this idea to our earlier illustration of the manager who was seeking to invest \$50,000, the man might find government notes providing the greatest return, but if there were a lot of paper work involved in making the investment, he might have the check mailed to a local savings and loan association for deposit in a savings account.

Bounded Rationality Model Process

The steps involved in the econologic and bounded rationality models are really quite different because of the underlying assumptions that accompany each. We have already examined those involved in the econologic model. The steps contained in the bounded rationality model, which is illustrated in Figure 12-2, are:

Steps in the bounded rationality process.

1. Identify the problem to be solved or goal to be defined.
2. Determine the minimum level or standard that all acceptable alternatives will have to meet.
3. Choose one feasible alternative that will resolve the issue.
4. Appraise the acceptability of this alternative.
5. Determine if it meets the minimum levels that have been established.
6. If the alternative is not acceptable, identify another and put it through the evaluation process.
7. If the alternative is acceptable, implement it.
8. After implementation, determine how easy (or difficult) it

7. James G. March and Herbert A. Simon, *Organizations* (New York: John Wiley & Sons, 1958), pp. 140-141.

8. See, for example, Jay J. Christensen-Szalanski, "A Further Examination of the Selection of Problem-Solving Strategies: The Effects of Deadlines and Analytical Aptitudes," *Organizational Behavior and Human Performance*, February, 1980, pp. 107-120.

9. Herbert A. Simon, *Models of Man* (New York: John Wiley & Sons, 1977), p. 253.

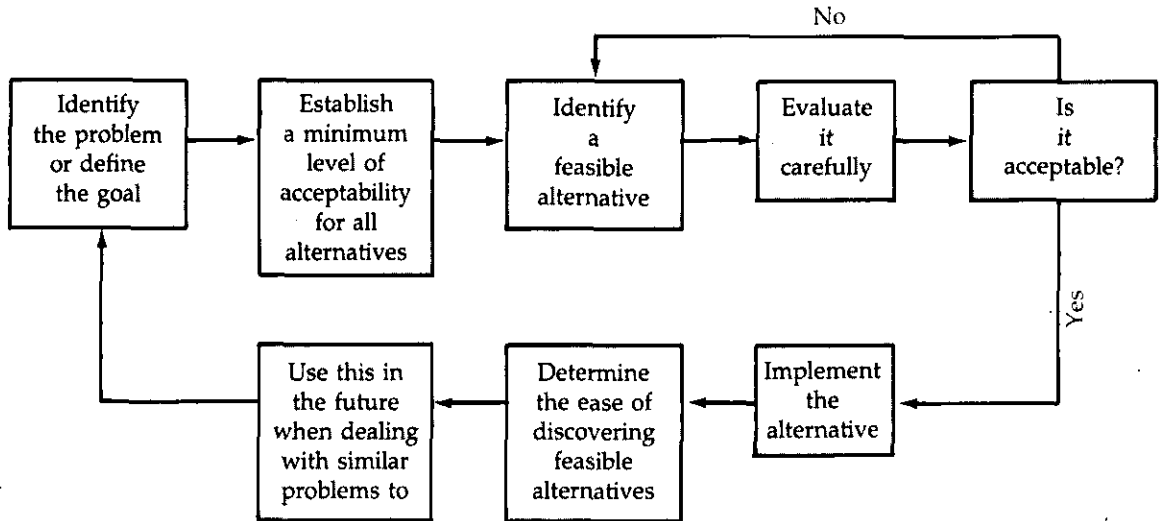


FIGURE 12-2

A bounded rationality model

was to discover feasible alternatives and use this information to raise or lower the minimum level of acceptability on future problems of a similar nature.¹⁰

Most of the steps in this process are readily understandable. One comment, however, is in order. No consideration has been given to the uncovering of symptoms, since as we just pointed out, action is taken only *after* a problem arises; no initial preventive measures are enacted.

Accuracy of the Bounded Rationality Model

When the economic and bounded rationality models are compared, it does seem that the latter represents a more realistic view of decision making. Yet how accurate is the model when subjected to empirical testing? The answer appears to be "very accurate," although much of the evidence supporting the model has been obtained from computerized simulations of the decision-making process, as seen through the work conducted by Cyert and March and by Clarkson.¹¹

EMPIRICAL TESTING. Cyert and March attempted to test the theory of bounded rationality by developing a computerized behavioral model to

10. Jerome R. Busemeyer, "Choice of Behavior in a Sequential Decision Making Task," *Organizational Behavior and Human Performance*, April, 1982, pp. 175-207.

11. Richard M. Cyert and James G. March (eds.), *A Behavioral Theory of the Firm* (Englewood Cliffs, NJ: Prentice-Hall, 1963); G. P. E. Clarkson, "A Model of Trust Investment Behavior," in Richard M. Cyert and James G. March (eds.) *A Behavioral Theory of the Firm* (Englewood Cliffs, NJ: Prentice Hall, 1963), pp. 253-267.

Empirical testing supports the accuracy of the bounded rationality model.

simulate price and output decisions in a large retail department store. The department they chose to investigate was primarily concerned with meeting specific sales objectives and obtaining a specified average markup on goods sold. In pursuing these objectives the department had a relatively free hand, in terms of both price and output decisions. The first step, therefore, was to set a price that would allow it to sell the expected quota. If sales went along as expected, there were standard procedures for reordering merchandise, thereby ensuring continued operational equilibrium. If things started to go wrong, however, search procedures would be initiated to revise reorder rules through renegotiation with suppliers and adjustments of the merchandise markup.

By studying the department's decision-making process, Cyert and March formulated rules that they felt governed both sales and markups. They then built a model for predicting decision-making behavior within the department. In particular, they were interested in seeing if they could predict advance (initial) orders, markups, sale pricing, and markdowns. Their model proved to be a very accurate simulation of actual decision making in the department. For example, the model's prediction of advance orders and the actual advance orders were as follows:

Season	Predicted Advance Orders	Actual Advanced Orders ¹²
1	18,050	16,453
2	26,550	24,278
3	36,200	35,922
4	43,000	35,648

In order to test the model's ability to predict markup decisions on new merchandise, 197 invoices were randomly drawn and the data fed into the computer model. Using this information as a basis for analyzing past price decisions, the model then proceeded to forecast how the new merchandise would be priced.

The definition of a correct prediction was made as stringent as possible. Unless the predicted price matched the actual price to the exact penny, the prediction was classified as incorrect. The results of the test were encouraging; of the 197 predicted prices, 188 were correct and 9 were incorrect. Thus, 95 percent of the predictions were correct. An investigation of the correct predictions showed that with minor modifications the model could be made to handle the deviant cases.¹³

12. Richard M. Cyert and James G. March (eds.) *A Behavioral Theory of the Firm* (Englewood Cliffs, NJ: Prentice Hall, 1963), p. 146.

13. Richard M. Cyert and James G. March (eds.) *A Behavioral Theory of the Firm* (Englewood Cliffs, NJ: Prentice Hall, 1963), p. 147.

Successful results were also obtained in the case of sales prices. Of the 58 predictions made by the model, 56 (96 percent) were perfect. This same high result factor was obtained when markdowns were computed. Of the 159 price predictions that were made, 140 (88 percent) were totally accurate. Having built their model around the assumptions of bounded rationality, Cyert and March illustrated that decision makers are undoubtedly closer to being administrative men than economic men.

In another computer simulation model, constructed by Clarkson,¹⁴ an attempt was made to duplicate the investment decisions of a bank trust investment officer. After interviewing departmental officers at several bank trust departments, he focused his attention on one investment officer who was primarily responsible for making all of the portfolio choices within his respective bank.

Clarkson examined the histories of several accounts and constructed naive behavioral models to uncover those decision processes that seemed to remain the same among accounts. He also asked the trust officer questions about how portfolio decisions were made, and a transcript of the responses was studied. In addition, Clarkson asked the man to read certain articles and financial reports and comment upon them. On the basis of this research, he then constructed a model of the trust investment process used by this officer. In the model, heavy reliance was placed on satisficing criteria in the form of rules of thumb and standard operating procedures.

In order to test the accuracy of the model, Clarkson then attempted to produce the portfolios for four accounts that had not been used in developing his program but were under the jurisdiction of the trust officer. The results are presented in Table 12-2. A comparison of the portfolios selected by the trust officer and the program model reveals that Clarkson's simulated decision-making process produced results almost identical to those of the bank official. And to further test the model's ability to reproduce the actual behavior of the trust officer, the computer program's portfolios were compared with those generated by random models. The results showed that Clarkson's model was more accurate than any of these random models.

OTHER EMPIRICAL RESEARCH FINDINGS

Thus far, we have illustrated two decision-making models and showed that the bounded rationality one is superior to the economic model in terms of describing the decision maker's behavior. However, there is far more to the

14. G. P. E. Clarkson, "A Model of Trust Investment Behavior," in Richard M. Cyert and James G. March (eds.) *A Behavioral Theory of the Firm* (Englewood Cliffs, NJ: Prentice Hall, 1963), pp. 253-267.

TABLE 12-2 Trade Investment Selections: Actual versus Program Model

1. Growth Account (\$22,000 available for investment)

Trust Officer Selections

30 Corning Glass
 50 Dow Chemical
 10 IBM
 50 Merck and Company
 45 Owens Corning Fiberglass

Program Model Selections

60 General American Transportation
 50 Dow Chemical
 10 IBM
 60 Merck and Company
 45 Owens Corning Fiberglass

2. Income and Growth Account (\$37,500 available for investment)

Trust Officer Selections

100 American Can
 100 Continental Insurance
 100 Equitable Gas
 100 General Public Utilities
 100 Libbey Owens Ford
 50 National Lead
 100 Philadelphia Electric
 100 Phillips Petroleum
 100 Socony Mobil

Program Model Selections

100 American Can
 100 Continental Insurance
 100 Equitable Gas
 100 Duquesne Light
 100 Libbey Owens Ford
 100 International Harvester
 100 Philadelphia Electric
 100 Phillips Petroleum
 100 Socony Mobil

3. Income and Growth Account (\$31,000 available for investment)

Trust Officer Selections

100 American Can
 100 Continental Insurance
 100 Duquesne Light
 100 Equitable Gas
 100 General Public Utilities
 100 International Harvester
 100 Libbey Owens Ford
 100 Socony Mobil Oil

Program Model Selections

100 American Can
 100 Continental Insurance
 100 Duquesne Light
 100 Equitable Gas
 100 Pennsylvania Power & Light
 100 International Harvester
 100 Libbey Owens Ford
 100 Socony Mobil Oil

4. Income Account (\$28,000 available for investment)

Trust Officer Selections

100 American Can
 100 Continental Insurance
 100 Duquesne Light
 100 Equitable Gas
 100 General Public Utilities
 100 International Harvester
 100 Phillips Petroleum

Program Model Selections

100 American Can
 100 Continental Insurance
 100 Duquesne Light
 100 Equitable Gas
 100 Pennsylvania Power and Light
 100 International Harvester
 100 Phillips Petroleum

Source: Adapted from G. P. E. Clarkson, "A Model of Trust Investment Behavior," in Richard M. Cyert and James G. March, *A Behavioral Theory of the Firm* (Englewood Cliffs, NJ: Prentice-Hall, 1963), pp. 265-266.

area of behavior and the decision-making process than these two models, and an examination of some other related empirical research is in order.

Simplification Is Important

There is considerable evidence available to indicate that most decision makers employ a *simplified model of reality*. When confronted with a situation they have faced in the past, they often use the same general strategy as they did before, if it was previously successful. They opt for a new approach only if the previous strategy did not work out well. A common illustration of this point is found in the case of diners who order a steak and then proceed to salt the meat without first tasting it. How do they know the meat is not already thoroughly salted? They do not; but it is typical to find chefs serving meat lightly salted and letting the customer decide how much more salt to add. Thus the decision maker is assuming that he or she can generalize from past experience via a simplified model of reality.

Most decision makers use a simplified model of reality.

Additionally, people often dislike getting new information that distorts their prior beliefs. This is the concept of *cognitive dissonance* that we discussed in Chapter 3. Individuals will attempt to reduce their dissonance by either ignoring, rationalizing, or refuting (in their own mind) the validity of the new information. For example, people who smoke often either ignore cancer warnings or say, "It won't happen to me." In either case, we can reiterate our decision-making proposition—simplified models of reality are used by most decision makers.

Subjective Rationality Is Ever-Present

Many individuals believe they are highly scientific and logical when making decisions. Actually, research shows that most tend to respond to *subjective* criteria, as well. For example, regardless of their initial goals, people often become more conservative as the complexity of a situation increases. Furthermore, most will stop seeking additional information (which could be obtained cheaply and prove to be highly beneficial) and start relying more heavily on personal judgment. Laboratory experiments confirm that the probabilities assigned to outcomes by subjects are often quite different from those objectively determined.

Decision makers also respond to subjective criteria.

What accounts for such behavior? Numerous personality traits can be cited, including aggression, autonomy, intelligence, and even fear of failure. All of these traits tend to affect decision making. The effect of fear of failure is particularly noticeable when people are asked to wager their own money. When betting small amounts such as \$1.00, people are often high risk takers, accepting an even money payoff on an event whose likelihood is 4 to 1. On the other hand, when the stakes are very high, such as \$5,000, they will turn down a payoff of 3 to 1 on an event with a likelihood of 50

percent. Their fear of failure (subjective rationality) outweighs the favorable odds (objective rationality).

Finally, people tend to develop general decision-making rules that seem logical but are actually fallacious. For example, it is common to find individuals predicting the occurrence of a particular event because it has not occurred recently. If a fair coin has come up heads three times in a row, they bet on a tail for the next flip. People also tend to overestimate the probability of favorable events and underestimate unfavorable ones. Additionally, it is common to find individuals overestimating the likelihood of events with low probabilities and underestimating those with high probabilities.¹⁵

Rationalization Often Transcends Rationality

Additionally, decision makers rationalize their decisions.

Empirical evidence reveals that decision makers not only are satisficers, but also are often *rationalizers*. As we noted earlier, search behavior is often concerned with the discovery of satisfactory alternatives. However, when is an alternative “good enough?” If a person is in a hurry, the first feasible choice may be implemented under the reasoning, “I had to make a fast decision so I chose the first likely alternative.” Even if objective evidence shows that there was time for consideration of another alternative, the individual will often claim there was not. In short, the choice is rationalized.

Furthermore, individuals with sufficient time to consider many alternatives will often make a final choice before they have actually finished examining all the alternatives. They then rationalize their decision by finding some problem or shortcoming with each of the remaining choices. Their ultimate choice, known as the *implicit favorite*, is, of course, found to be superior to all the others.

While some people feel that this process is more a matter of rationalization than decision making, the two are actually intertwined. Except in the most objective cases, the final outcome is a matter of decision-maker preference, and when choosing from among similar outcomes, people are innately motivated to justify the final choice to themselves.

In a study conducted among business graduate students who were graduating from the Massachusetts Institute of Technology, Soelberg discovered that many of them actually made their final employment decision prior to the time they ended their job interviews. Using questionnaires and interviews, Soelberg also found that after the implicit favorite was chosen,

15. For more on subjective rationality, see Henry Montgomery and Thomas Adelbratt, “Gambling Decisions and Information about Expected Value,” *Organizational Behavior and Human Performance*, February, 1982, pp. 39–57; Roger Johansson and Berndt Brehner, “Inferences from Incomplete Information—A Note,” *Organizational Behavior and Human Performance*, August, 1979, pp. 141–145.

individuals searched through the other alternatives and selected the most attractive one as the **confirmation candidate**. Then decision rules were developed and modified in such a way that the implicit favorite was shown to be superior to the confirmation candidate. During this process, the student continually reported a great deal of uncertainty regarding the final choice. Eventually, of course, a decision was made and the implicit favorite won out.¹⁶

Soelberg uncovered this rationalization process by gathering job-decision data from 32 of the degree candidates via a biweekly questionnaire. After analyzing the information and identifying the implicit favorite and confirmation candidate, he made predictions regarding job choices. In 87 percent of the cases, the researchers were able to identify accurately the final choice two to eight weeks before the student admitted having made it!

Unfortunately, the **implicit favorite decision-making model** is not definitive in its description of the decision-making process. First, it relies upon the individual knowing all of the available alternatives. Second, it really does not explain how the implicit favorite is justified. Third, it fails to address nonprogrammed decision making—decision making in which the alternative courses of action are poorly defined. An example of this last shortcoming is provided in the case of creative decision making in which alternatives have to be invented or dreamed up by the individuals. Finally, it does seem that the implicit favorite model is more applicable to individual than organizational decision making. On the positive side, however, the model provides some very valuable insights into the role of rationality in individual decision making.

ORGANIZATIONAL DECISION MAKING

Up until now, we have been analyzing decision making from the standpoint of the individual. Yet many of the models and concepts we have presented apply to organizational decision making, as well. After all, to a large degree, group decision making is a function of the individuals who are participating in the process; and each uses at least some of the concepts we have examined in this chapter.

On the other hand, organizational decision making is often more rational in terms of rigorously evaluating alternatives and choosing the one with the best cost-benefit ratio. In fact, many organizations formulate specific goals, strategies, policies, procedures, and rules to provide enterprise direction, while ensuring the formal coordination of resources (workforce, money, machines, and materials). At the same time, performance

The econologic model is most descriptive of upper-level decision making.

16. Peter O. Soelberg, "Unprogrammed Decision Making," *Industrial Management Review*, Spring, 1967, pp. 19-29.

standards and check points are established for ensuring that goal and targets are met within the assigned time and cost parameters; when they are not, corrective action is taken. These planning, organizing, and controlling functions are carefully thought out and implemented. Thus, when we talk about organizational decision making, we are more likely to find the econologic model gaining in descriptive accuracy.

It is probably easier to function in an econologic manner as decisions are made in the open, with emphasis on maximization of objectively measured advantage, and when external memories and computational aids are available to assist in the calculation of expected values. Furthermore, the resources of organizations are substantially greater than those of individuals, permitting the identification of more decision alternatives and the collection of more data on their outcomes. Finally, many . . . decisions are based on money—a quantitative criterion which may allow complete and consistent ranking of alternatives. Because of these differences between individuals and organizations . . . decision making for some firms . . . may approximate the econologic model.¹⁷

Alternatively, it is misleading to believe that organizational decisions are not influenced by individuals. As long-range objectives are formulated at the top and passed down the line, the idealism of the econologic model gives way to the realism of the bounded rationality and implicit favorite models. Subjectivity and expediency replace much of the previous objectivity; those charged with the final implementation of directives use techniques that employ both satisficing and rationalization. As a result, decision making tends to be a combination of objective and subjective processes; while top management would like it to follow the steps of the econologic model, in the individual-group organization interface, decision making is highly influenced by behavioral input.

DECISION-MAKING STYLES

Whether managers are making decisions that fall within the purview of the econologic or the bounded rationality model, each person brings to the process a particular style of decision making. This can be more clearly seen if we consider the two major activities of decision making: information gathering and data evaluation. Each of these activities is quite different from the other and has its own set of orientations.

17. Orlando Behling and Chester Schriesheim, *Organizational Behavior: Theory, Research and Application* (Boston: Allyn and Bacon, 1976), p. 34.

detectives or managers who function in situations in which personal feeling has to be secondary to making the right decision.

Feeling types relate well to others.

Feeling types like harmony and pleasant environments. They tend to be sympathetic and relate well to others. They also enjoy pleasing people and believe that much of the inefficiency and ineffectiveness in the organization is a result of interpersonal difficulties. Feeling types often do well as counselors, personnel training and development managers, and leaders of highly motivated, knowledgeable subordinates.

There are four basic decision styles.

According to the famous psychologist Carl Jung, an individual tends to be dominant in *only* one of the four functions (sensation, intuition, thinking, or feeling) backed up by *only* one of the functions from the other set of paired opposites.¹⁸ For example, a person could be high on sensation followed by thinking. Or the individual could be high on intuition followed by feeling. The four basic decision style combinations are: sensation–thinking, sensation–feeling, intuition–thinking, and intuition–feeling. These are referred to as basic decision styles.

The four basic decision styles can be classified as in Figure 12-4. Commenting on them, Taggart and Robey have noted:

The ST processing style relies on sensing of the environment for perception and rational thinking for judgment. ST processors attend to *facts* and handle them with *impersonal analysis*. They tend to be practical and matter of fact and develop abilities more easily in technical work with facts and objects. In contrast, NF types rely on intuitive perceptions and nonrational feeling for judgment. Such people attend to *possibilities* and handle them with *personal warmth*. They tend to be enthusiastic and insightful, and their abilities are more easily expressed in understanding and communicating.

NT people attend to *possibilities*, as do NF's, but they approach them with *impersonal analysis*, like ST's. NT's are logical and ingenious, and express their abilities easily in theoretical and technical developments. SF people attend to *facts*, as do ST's but they handle them with *personal warmth*, like NF's. SF's tend to be sympathetic and friendly, and find their abilities best developed in practical help and services for people. Occupationally, the NT is typified by a planner; the ST, a technician; the SF a teacher, and the NF, an artist.¹⁹

A number of different tests have been developed for helping individuals determine their own basic decision styles. Most of these are self-

18. C. G. Jung, *Psychological Types* (London: Routledge & Kegan Paul, 1923).

19. William Taggart and Daniel Robey, "Minds and Managers: On the Dual Nature of Human Information Processing and Management, *Academy of Management Review*, April, 1981, p. 190.

	LEFT HEMISPHERE		RIGHT HEMISPHERE	
	← DECISION STYLE →			
	ST Sensation/Thinking	NT Intuition/Thinking	SF Sensation/Feeling	NF Intuition/Feeling
<i>Focus of attention</i>	Facts	Possibilities	Facts	Possibilities
<i>Method of handling things</i>	Impersonal analysis	Impersonal analysis	Personal warmth	Personal warmth
<i>Tendency to become</i>	Practical and matter of fact	Logical and ingenious	Sympathetic and friendly	Enthusiastic and insightful
<i>Expression of abilities</i>	Technical skills with facts and objects	Theoretical and technical developments	Practical help and services for people	Understanding and communicating with people
<i>Representative occupation</i>	← Technician Planner Teacher Artist → Manager			

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FIGURE 12-4
The range of decision styles in human information processing

description inventories such as the Myers–Briggs Type I indicator (MBTI) in which the individual is given a series of questions that help identify the person’s perception of his or her decision-making style. The MBTI has produced some interesting management research findings. For example, when Mitroff and Kilmann used the instrument and asked managers to relate stories about their ideal organization, the authors reported a “remarkable and very strong similarity between the stories of those individuals who have the same personality type (e.g., ST) and . . . a remarkable and very strong difference between the stories of the four personality types.”²⁰ STs described their ideal organization as emphasizing factual details, the physical features of the work, certainty, specificity, and

20. I. I. Mitroff and R. H. Kilmann, "On Organization Stories: An Approach to the Design and Analysis of Organization through Myths and Stories," in R. H. Kilmann, L. R. Pondy, and D. P. Slevin (eds.) *The Management of Organization Design* (Volume 1) (New York: Elsevier North-Holland, 1976, p. 193.

impersonal organizational control. NTs had stories that emphasized broad global issues and offered theories of organization that were impersonally idealistic. NFs also told stories with global theory emphases but they focused on general, personal, and humanistic values; they also described the organization as one that exists to serve humankind. SFs focused on facts and precision but did so in terms of human relationships within a specific organization.²¹

In another research investigation using the MBTI to study management decisions, Henderson and Nutt examined risk taking and the adoption of hypothetical capital expenditure proposals. They found that ST types were more reluctant to adopt the proposals and saw the greatest amount of risk in making decisions. SFs tolerated greater risk and were more likely to adopt the same projects. The NT and NF decision makers fell between these two groups in their likelihood to adopt proposals.²²

Left-Brain, Right-Brain Hemispheres

Another current interest of behavioral scientists who are concerned with decision-making styles is the topic of left-brain, right-brain hemispheres. Table 12-3 provides an abbreviated summary of some of the specialized hemisphere functions. Notice from the table that individuals who are **left-brain dominant** tend to recognize and remember names; **right-brain dominant** people tend to recognize and remember faces. Left-brain people tend to respond best to verbal instructions; their right-brain counterparts respond best to visual instructions. There are also different approaches used in carrying out the decision-making process. For example, left-brain (when compared to right-brain) people tend to be more conforming (as opposed to nonconforming), prefer structure, (as opposed to open-ended assignments), discover things systematically (as opposed to through exploration), recall verbal matter better than spatial imagery, look for specific facts (as opposed to main ideas), work best with sequential ideas (as opposed to those that show a relationship), and like to solve problems logically (as opposed to intuitively).

Researchers such as Robey and Taggart believe that there is a *link* between decision styles and left-hemisphere and right-hemisphere domination. Referring to Figure 12-4, they point out that:

At the top of (the figure), we suggest a link between left hemisphere domination and the ST type, and one between right

There are different decision-making approaches.

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21. I. I. Mitroff and R. H. Kilmann, "On Organization Stories: An Approach to the Design and Analysis of Organization through Myths and Stories," in R. H. Kilmann, L. R. Pondy, and D. P. Slevin (eds.) *The Management of Organization Design* (Volume 1) (New York:Elsevier North-Holland, 1976), pp. 193-195.
 22. John C. Henderson and Paul C. Nutt, "The Influence of Decision Style on Decision-Making Behavior," *Management Science*, April, 1980, pp. 371-386.

TABLE 12-3 Twelve of the Specialized Brain-Hemisphere Functions

Left Brain	Right Brain
Recognize and remember names	Recognize and remember faces
Respond to verbal instructions	Respond to visual instructions
Dislike improvising	Like to improvise
Solve problems systematically	Solve problems playfully
Logical problem solvers	Intuitive problem solvers
Responsive to logic appeals	Responsive to emotional appeals
Deal with one problem at a time	Deal with several problems at a time
Not psychic	Highly psychic
Produce logical ideas	Produce humorous ideas
Seldom use metaphors	Often use metaphors
Give information verbally	Give information with movement
Depend on words for meanings	Interpret body language

hemisphere domination and the *NF* type. The two intermediate types, *NT* and *SF*, can be considered less indicative of hemispheric domination. The placement of *NT* to the left of *SF* suggests that thinking (*T*) judgment is more characteristic of left hemisphere processes than is intuitive (*N*) perception. The feeling (*F*) type, in contrast, is dominated by the right hemisphere, which "pulls" the *SF* person to the right of the *NT*. This implies that the second-named element (judgment) takes precedence over the first (perception); in other words, characterization of style depends more on how information is *processed* (judgment) than on how it is *gathered* (perception).²³

The second, and perhaps more important, idea conveyed by Figure 12-4, is that managers have to be flexible in their processing style. Since they face a wide variety of technical and human-oriented questions, they will be more effective if they can change their style to fit their problems; that is, a

Managers must be flexible decision makers.

23. William Taggart and Daniel Robey, "Minds and Managers: On the Dual Nature of Human Information Processing and Management," *Academy of Management Review*, April, 1981, p. 191.

manager sometimes has to be a technician, other times a planner, still other times a teacher, and in some cases, an artist. This can be illustrated by looking at how each of the four managers listed at the bottom of Figure 12-4 might respond to a situation that calls for the individual to deal with a subordinate whose performance has been marginal. Consider how each of the four might act:

<i>Manager</i>	<i>Response</i>	<i>Characteristics of the Response²⁴</i>
ST	Improve your performance or you're fired!	Factual, impersonal, practical
NT	If your performance does not improve, you will be transferred to another position.	Possibilities, impersonal, ingenious
SF	You need to change; what can we do to help you?	Factual, personal, sympathetic
NF	You can improve your performance; let me suggest an approach.	Possibilities, personal, insightful

Researchers interested in decision styles and left-brain, right-brain dominance are currently studying how and why left-brain dominant people process information differently from right-brain dominant people. They are also interested in integrated and mixed problem-solving strategies. An *integrated* problem-solver uses the left *and* right hemisphere simultaneously without a clear preference for either. If pressured to express a preference, individuals do tend to favor one over the other. However, the strong connection between the two hemispheres indicates that the real preference is for using both together. A *mixed* problem solving strategy is used by individuals who employ *either* a left or a right dominant strategy depending on the situation. So there are actually four categories of problem-solving strategies: right brain, left brain, integrated, and mixed.

At the present time, human information processing researchers are interested in two specific areas of inquiry. One is how managers can be provided with learning experiences to improve right-hemisphere imaginative decision skills while continuing to educate them for success as left-hemisphere (logical) managers. For business schools and training and development departments, this means balancing the curriculum to encom-

24. William Taggart and Daniel Robey, "Minds and Managers: On the Dual Nature of Human Information Processing and Management," *Academy of Management Review*, April, 1981, p. 191.

pass the complete range of processing styles and strategies that are offered in Figure 12-4.

The second area of inquiry is that of developing more systematic measurement instruments for identifying individual processing styles. These styles can be inferred from observed behavior and self-description inventories. However, "more work must be done to study correlations between the various approaches, their reliability, and validity and their links to existing and emerging theory."²⁵

Systematic research efforts must continue.

SUMMARY

Decision making is the process of choosing from among alternatives, and there are two ways of examining this process: prescriptively and descriptively. The former attempts to describe how decision making ought to be carried out, while the latter is concerned with how decisions are actually made. Whichever approach is taken, of course, there is the implied presence of rationality.

The econologic model is a prescriptive one, which proceeds from the basic assumption that people are economically rational and attempt to maximize outputs in an orderly and sequential fashion. These steps involve (a) identifying the problem to be solved or goal to be achieved, (b) listing the various alternatives that could be employed in accomplishing this mission, (c) determining the results from each alternative, and (d) making a comparative evaluation of them for the purpose of choosing the best one. While this sequential process is the one commonly employed in describing decision making, the econologic model has several shortcomings. First, there is the problem of obtaining complete information on all alternatives and outcomes. Second, there is the difficulty of processing all of this information. A more realistic view of decision making is provided by the bounded rationality model.

The bounded rationality model portrays the decision maker as an administrative person with limited information-processing capability. As a result, the individual's final choice is usually something less than ideal. This occurs for two reasons. First, decision makers seldom employ opportunistic surveillance. Usually they wait until a problem manifests itself and then take corrective action. Second, many people employ satisficing behavior in which they choose an alternative that is "good enough" rather than expending time and effort to identify the one best possible alternative. The steps in the bounded rationality process are (a) identifying the problem to be solved or goal to be attained, (b) determining the minimum level of

25. Daniel Robey and William Taggart, "Measuring Managers' Minds: The Assessment of Style in Human Information Processing," *Academy of Management Review*, July, 1981, p. 382.

acceptability for all alternatives, (c) choosing one feasible solution, (d) determining if it meets the minimum levels of acceptability, (e) if the alternative does, implementing it; if not, going back and choosing another, and (f) after implementation, determining how easy or difficult it was to identify feasible alternatives and using this information to raise or lower the minimum level of acceptability on future problems of a similar nature. Empirical research tends to support the superiority of the bounded rationality model over the econologic model in terms of describing how personal decision making is carried out.

Other data-based research has shed further light on the decision-making process. For example, there is considerable evidence that decision makers use a simplified model of reality. Furthermore, people tend to use subjective rationality as the situation becomes more complex, even though objective rationality would provide higher payoffs. Additionally, rationalization often transcends rationality.

At the organizational level, the econologic model gains in descriptive accuracy. However, as top management decisions are delegated down the hierarchy, those implementing them often employ a process similar to that presented by the bounded rationality model.

Decision makers have different styles. Using the psychological functions of sensation, intuition, thinking, and feeling, it is possible to derive four different style combinations. These combinations were illustrated in Figure 12-4. Each of the four styles results in a different type of decision-making approach. In addition to studying these four styles, behavioral scientists have also been investigating left-brain, right-brain hemisphere functions. As pointed out in Table 12-3, left-brain dominant people tend to approach decision making in a different way than do right-brain people. What is the connection between decision styles and brain dominance? Some researchers have offered tentative findings, but for the moment, the area remains one of substantive inquiry.

KEY TERMS

Decision making
Prescriptive decision theory
Descriptive decision theory
Econologic decision-making model
Economic man

Administrative man
Certainty
Risk
Uncertainty
Maximin criterion
Bounded rationality decision-making model

Opportunistic surveillance
Satisficing behavior
Confirmation candidate
Implicit favorite decision-making model

Sensation types
Intuitive types
Thinking types
Feeling types
Left-brain dominant
Right-brain dominant

REVIEW AND STUDY QUESTIONS

1. How does prescriptive decision theory differ from descriptive decision theory?
2. How can you tell if a decision is rational or not? Explain, including in your answer a definition of the word rational.
3. Many people use the econologic model rather than the bounded rationality model in describing the decision-making process. Why is this so?
4. What are the major shortcomings of the econologic model? Describe them.
5. What are the basic decision-making steps in the bounded rationality model? Identify them.
6. Why do most decision makers fail to carry out opportunistic surveillance? Explain.
7. How does satisficing behavior influence the average decision maker's behavior? Give an example in your answer.
8. In what way have Cyert, March, and Clarkson helped validate the accuracy of the bounded rationality model? Explain.
9. How do people tend to deal with cognitive dissonance? Give an illustration.
10. Why is it true that, regardless of their initial goals, people often become more conservative as the complexity of a situation increases?
11. In what way is subjective rationality always present in the decision-making process? Cite an example in your answer.
12. In a rationalization model of decision-making behavior, what role is played by the confirmation candidate? Where does the implicit favorite enter the process? Explain.
13. When we talked about organizational decision making, we are likely to find the econologic model gaining over the bounded rationality model in terms of *descriptive accuracy*. What is meant by this statement?
14. How do sensation types go about gathering information. How do intuition types do so?
15. How do thinking types go about evaluating data? How do feeling types go about evaluating data?
16. Using the four types of functions described in the above two answers, what basic decision-style combinations are there?
17. How do decision makers who are left-brain dominant differ from those who are right-brain dominant? Compare and contrast the two.
18. Is there any link between decision styles and left-hemisphere and right-hemisphere domination? Explain your answer.

A DOWN-HOME DECISION

Chet Andrews and his family have lived in Southern California for the last 15 years. Recently, Chet was called in by the president of his company and offered a promotion to vice-president and the opportunity to head up the firm's east coast operations.

The company feels that by expanding to the other coast it can increase sales by 30 percent annually. No final decision had been made regarding where the east coast headquarters would be established, but a committee that had been studying the matter felt the two most promising locations were Buffalo, New York, and Orlando, Florida. The president promised Chet that if he accepted the job, he could make the final site choice himself. After conducting a preliminary review of the committee's data, Chet concluded that Buffalo would be the best choice.

Upon returning home that evening, Chet shared the news about the promotion with his wife. She was delighted to learn that he was finally going to be rewarded for all of the hard work he had done for the firm. However, she was not very pleased with the site location news. "I don't want to move to Buffalo," she told him. "It's cold there and the children have never really had to spend a winter in that type of climate. Also, our parents are in their mid-sixties, and you know how much they like to come here to visit the kids. If we live in the north, the chance of their coming as often is going to be a lot less. Besides, I thought that a promotion is supposed to be a reward for doing a good job. It doesn't seem to me that this is much of a reward."

Chet listened quietly. When his wife was done, he asked her, "What do you want me to do? How would you like to handle this situation?" His wife measured her words carefully. "If I were you, I'd opt for the Orlando site. After all, the president is going to follow your recommendation. How much better is Buffalo going to be for the company than Orlando? Orlando is growing by leaps and bounds. So the company will be able to get its foot into a dynamic market, and at the same time it will be able to do you a favor." Chet said that he would think about it.

The next day, Chet told the president he would take the promotion. He also told him that after careful consideration of the committee's report, coupled with his own appraisal of the situation, he had decided that Orlando would be the best site location. The president gave his approval and told Chet to begin making plans to implement the expansion. When he called home to tell his wife the news, she was overjoyed. "Great, the children are going to be so happy. And mom and dad will be too. I can hardly wait to tell them."

1. Was Chet's decision rational?
2. Is the decision best described by an economic or a bounded rationality model?
3. How did the concept of satisficing behavior enter into the decision? Explain.

IT WAS IN THE BAG

Last Month, Mary Berdley, an accounting major, was graduated from a large midwestern university. During her last semester, Mary had interviews with seven large certified public accounting firms and nine intermediate and small ones. Her accounting grade point average of 3.75 and her overall GPA of 3.88 helped attract her to these firms, and some of them were very competitive in their hiring efforts. One company flew her to the home office 700 miles away and gave her a full-day tour of the facilities. They then proceeded to throw a small dinner party for her and at the height of the dinner the president of the firm offered her a job. Mary was in a state of shock, but quickly recovered her composure and mumbled something about "wanting to think about it." Another firm interviewed her on campus, and when it learned that Mary was thinking of getting married during the next year, told her that the company would guarantee her fiancée a job as well.

During the semester Mary continually talked to her faculty advisor regarding the offers she was receiving. The advisor offered her general advice but tried not to influence the final decision in any way. During one of their last communications, the advisor said, "There's three weeks until graduation. You need to start concentrating on your studies. When the exam period is over, you can then sit back and make a decision. Besides, with 16 offers in hand, it doesn't sound like you have an easy choice ahead of you." Mary just smiled.

A week before graduation, Mary dropped by to talk to the advisor. She informed the woman that she had accepted a job with one of the best known national accounting firms. When the woman asked her why she had opted for this one, Mary said that several factors had influenced her decision. First, the money was better than that offered by any of the other firms. Second, there was a chance that she might someday become a partner. Third, if she decided to quit, it would be a lot easier to find another good job because the reputation of her employer was so high that competitors were quick to snap up those who were leaving.

This, however, was not the story the advisor received from other students. They told her that Mary had taken the job with the national accounting firm because her uncle was a partner there and had helped her out. "Her family wanted her to take that job and she was happy to comply," said one of the students. "There was never any doubt in any of our minds that

she'd get an offer from that accounting firm and she'd accept it. It was in the bag all along."

1. Are any of Mary's comments to the advisor accurate? Explain.
2. Describe Mary's decision-making process, bringing the concepts of implicit favorite and confirmation candidate into your discussion.
3. Assuming Mary intended all along to take the job with the large national firm, why did she still go ahead and have interviews with the other companies?

SELF-FEEDBACK EXERCISE:

ARE YOU A LEFT-BRAIN OR A RIGHT-BRAIN HEMISPHERE PERSON?

As noted in the chapter, some people tend to be left-brain dominant, while others are right-brain dominant. The following questions are designed to help you determine which you are. Before answering the 25 questions, however, please keep in mind that this assignment is designed only to provide you with some preliminary information regarding your perception of the type of decision maker you are. Also remember that many people are not totally left or right brain dominant but rather use an integrated or mixed decision-making process. The following does not measure the latter two strategies. It provides feedback only on your preference for left or right brain thinking.

Answer each of the following as accurately as you can. It is a forced-choice test, so choose the option you like best (or dislike least) but remember to answer each one!

1. When you solve problems, your basic approach is:
 - a. logical, rational
 - b. intuitive
2. If you were able to write books, which type would you prefer to write:
 - a. fiction
 - b. nonfiction

3. When you read, you read for:
 - a. main ideas
 - b. specific facts and details
4. Which of these types of stories do you most like to read:
 - a. realistic
 - b. fantasy
5. When you study or read:
 - a. you listen to music on the radio
 - b. you must have silence
6. How do you prefer to learn?
 - a. through ordering and planning
 - b. through free exploration
7. How do you like to organize things?
 - a. sequentially
 - b. in terms of relationships
8. Which of these statements best describes you:
 - a. almost no mood changes
 - b. frequent mood changes
9. Do you enjoy clowning around?
 - a. yes
 - b. no
10. How would you describe yourself?
 - a. generally conforming
 - b. generally nonconforming
11. Are you absentminded?
 - a. frequently
 - b. virtually never
12. What types of assignments do you like best?
 - a. well structured
 - b. open-ended
13. Which is most preferable to you?
 - a. producing ideas
 - b. drawing conclusions
14. Which is the most fun for you?
 - a. dreaming
 - b. planning realistically

15. Which of these would be most exciting for you?
 - a. inventing something new
 - b. improving on something already in existence
16. What type of stories do you prefer?
 - a. action
 - b. mystery
17. Which do you like best?
 - a. cats
 - b. dogs
18. What do you like best?
 - a. creating stories
 - b. analyzing stories
19. Do you think better:
 - a. sitting up straight
 - b. lying down
20. If you could be either, which would you prefer to be?
 - a. a music composer
 - b. a music critic
21. Could you be hypnotized?
 - a. yes, quite easily
 - b. no, I don't think so.
22. Which would you prefer to do?
 - a. ballet dancing
 - b. interpretative impromptu dancing
23. Which are you best at?
 - a. recalling names and dates
 - b. recalling where things were in a room or picture
24. When it comes to getting instructions, which do you prefer?
 - a. verbal instructions
 - b. demonstration
25. When getting verbal instructions, how do you generally feel?
 - a. restless
 - b. attentive

Now take each of your answers and compare them to the key below. Circle your response to each and then add up the total of circled responses in each column.

	I	II		I	II
1.	b	a	13.	a	b
2.	a	b	14.	a	b
3.	a	b	15.	a	b
4.	b	a	16.	b	a
5.	a	b	17.	a	b
6.	b	a	18.	a	b
7.	b	a	19.	b	a
8.	b	a	20.	b	a
9.	a	b	21.	a	b
10.	b	a	22.	b	a
11.	a	b	23.	b	a
12.	b	a	24.	b	a
			25.	a	b

TOTAL — —

Column 1 measures your perceived preference for using right-brain functions while Column II measures your perceived preference for using left-brain functions. If you want more information on the way you perceive yourself as a decision maker, go back and reread Table 12-3.