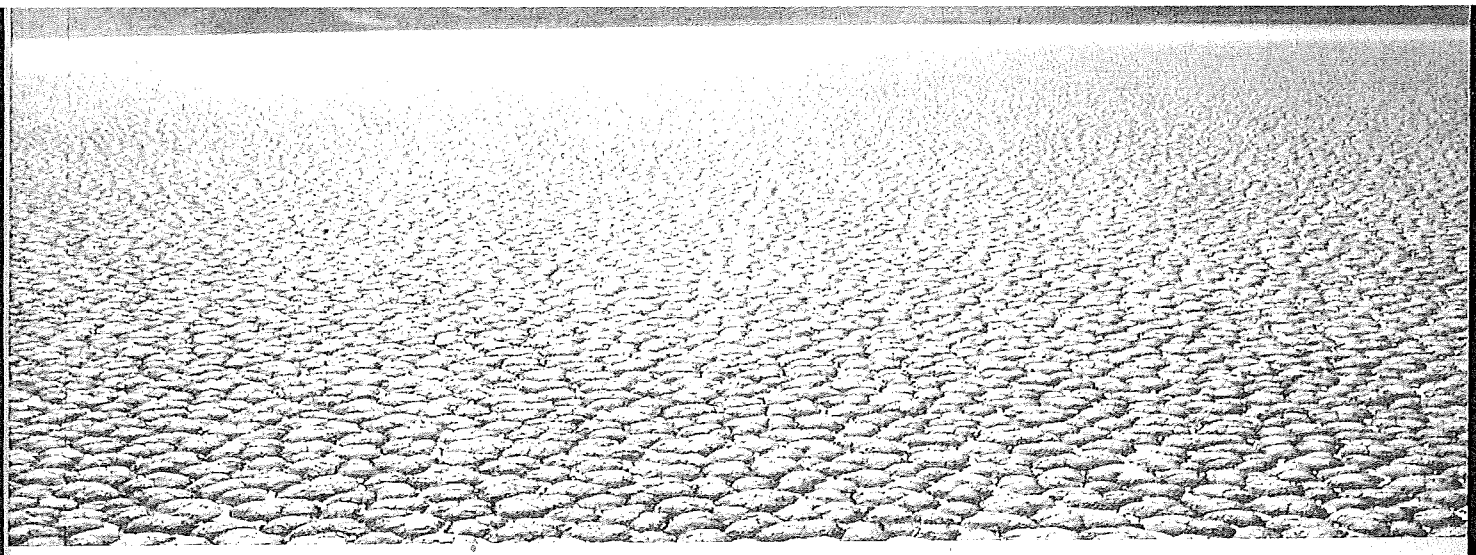

ORGANISATIONAL BEHAVIOUR

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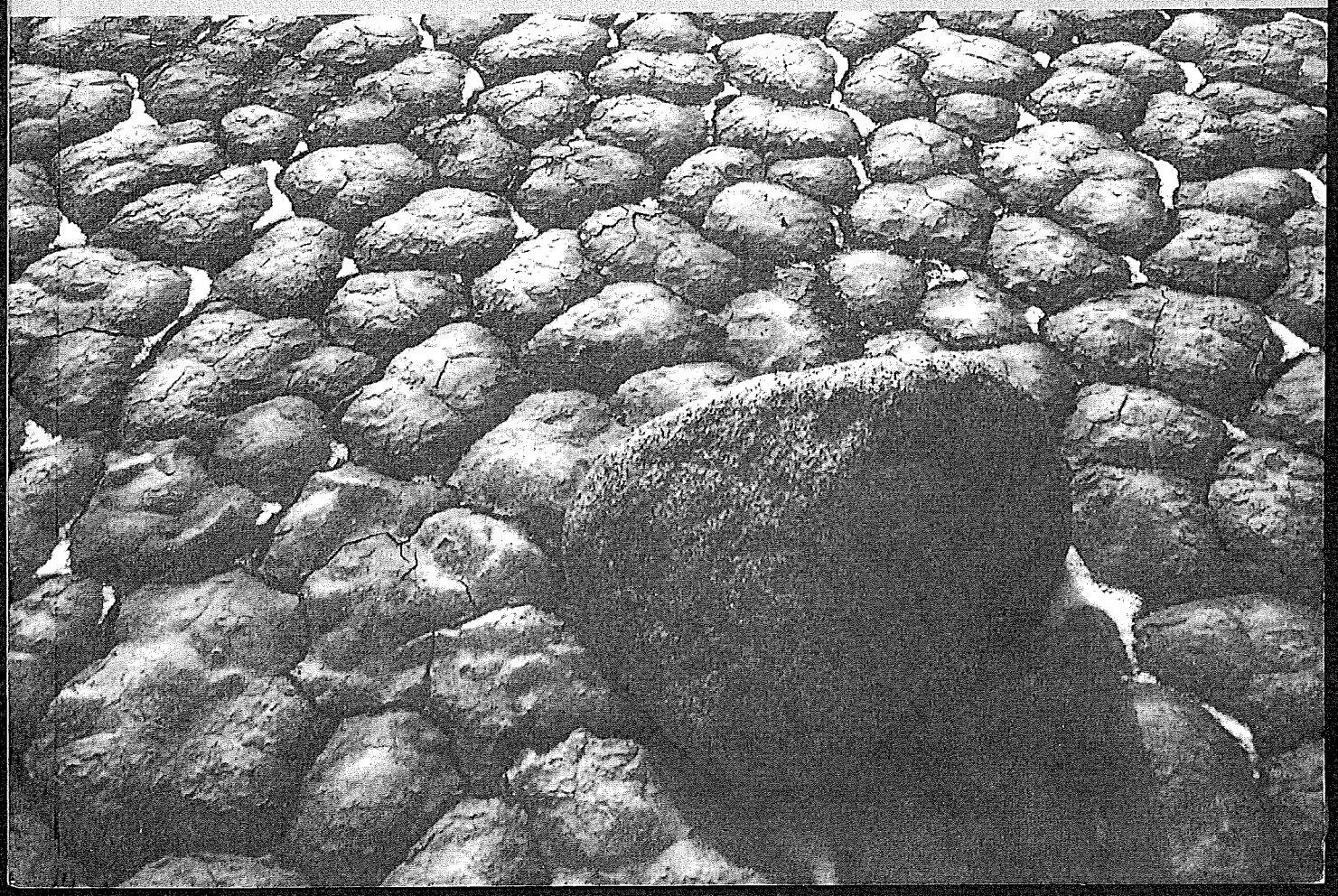


Models of decision making

There are several models of decision making. Each is based on a different set of assumptions and offers a unique insight into the decision-making process. This section reviews three key historical models of decision making. They are:

- The rational model.
- Simon's normative model.
- The 'garbage can' model.

Each successive model assumes that the decision-making process is less and less rational. Let us begin with the most orderly or rational explanation of decision making.

The rational model

Rational model
logical four-step approach to decision making

The **Rational model** proposes that people use a rational, four-step sequence when making decisions – that is, they identify the problem, generate alternative solutions, select a solution, and implement and evaluate the solution. According to this model, professionals are entirely objective and possess complete information on which to make a decision. Despite criticism for being unrealistic, the rational model is instructive because it analyses the decision-making process and serves as a conceptual anchor for more recent models.[2] (Also see Chapter 6 on process theories of motivation.) Let us now consider each of these four steps in detail.

IDENTIFYING THE PROBLEM

Problem
gap between an actual and desired situation

A **Problem** exists when the actual situation and the desired situation differ. For example, a problem exists when you have to pay rent at the end of the month but don't have enough money. Your problem is not that you have to pay rent. Your problem is obtaining the necessary funds.

> The challenge for post-communist Georgia, a nation of 5.4 million, is to turn its wine into a quality export that can compete with the table wines of Spain, Italy and France and someday yield an award-winning vintage. But as I learned on a recent three-day visit, there's a long way to go before Georgia can consistently produce the rival of a typical Chianti, much less a noble St Emilion. The problem is an economy and political culture that are still dysfunctional 10 years after Soviet rule. The banking system barely works, depriving businesses of credit, and corruption is pervasive, with widespread counterfeiting of products including wine.[3]

How do companies know when a problem exists or will emerge in the near future? One expert proposed that decision makers use one of three methods to identify problems: historical cues, planning and other people's perceptions:[4]

- Using historical cues to identify problems assumes that the recent past is the best estimate of the future. Thus, professionals rely on past experience to identify discrepancies (problems) from expected trends. For example, a sales manager may conclude that a problem exists because the first-quarter sales are less than they were a year ago. This method is prone to error because it is highly subjective.
- A planning approach is more systematic and can lead to more accurate results. This method consists of using projections or imagined events (scenarios) to estimate what is expected to occur in the future. A time period of one or more years is generally used.

  Scenario technique
  speculative forecasting method

  The **Scenario technique** is used to identify future states, based on a given set of circumstances ('environmental conditions'). Once different scenarios are developed, companies devise alternative strategies to survive in the various circumstances. This process helps in the creation of contingency plans for far into the future. Companies such as Royal Dutch/Shell, IBM and Pfizer are increasingly using the scenario technique as a planning tool.[5]
- A final approach to identifying problems is to rely on the perceptions of others. A restaurant manager may realise that his or her restaurant provides poor service when a large number of customers complain about how long it takes to receive food after placing an order. In other words,

customers' comments signal that a problem exists. Interestingly, companies frequently compound their problems by ignoring customer complaints or feedback.

GENERATING SOLUTIONS

After identifying a problem, the next logical step is to generate alternative solutions. For repetitive and routine decisions, such as deciding when to send customers a bill, alternatives are readily available in the form of 'decision rules'. For example, a company might routinely bill customers three days after shipping a product. Where no decision rules exist, however, novel and unstructured decisions must be made. Professionals must creatively generate alternative solutions. Organisations can use a number of techniques to stimulate the necessary creativity and these are discussed later in this chapter.

SELECTING A SOLUTION

Ideally, decision makers want to choose the alternative with the greatest value. Decision theorists refer to this as maximising the expected utility of an outcome. This is no easy task. First, assigning values to alternatives is complicated and prone to error. Not only are values subjective but they also vary according to the preferences of the decision maker. Before selecting a solution people often anticipate the experience of regret of making the wrong choice (how could I have been so stupid?) and take it into account when making decisions. Dutch researchers have described a nice example of the influence of this process. In the Dutch Postcode lottery the winning numbers are based on randomly drawn postcodes. The complete postcode is shared by a group of 25 addresses in one single street. When you do not play and your postcode is drawn, you know that you would have won, had you played the lottery. Compared to the classic State Lottery, people anticipate much more post-decisional regret, which in its turn influences the decision to play. Most people think that more choice means better options and greater satisfaction. But more choice can lead to excessive choice. According to Barry Schwartz, unlimited choice can produce genuine suffering. Owing to the very strong post-decisional regret, too many options can lead to stress, anxiety and decision-making paralysis.[6]

Research demonstrates that people vary in their preferences for safety or risk when making decisions. A recent meta-analysis of 150 studies revealed that males displayed more risk taking than females.[7] The second step in selecting a solution, that of evaluating alternatives, assumes that each can be judged according to set standards or criteria. This further assumes that: valid criteria exist, each alternative can be compared against these criteria and that the decision maker actually uses the criteria. As you know from making your own key life decisions, people frequently violate these assumptions.

IMPLEMENTING AND EVALUATING THE SOLUTION

Once a solution is chosen, it needs to be implemented. Before implementing a solution, though, decision makers need to do their homework. For example, three ineffective managerial tendencies have been observed frequently during the initial stages of implementation (see Table 12.1). Skilful managers try to avoid these tendencies. Table 12.1 indicates that to promote necessary understanding, acceptance and motivation, managers should involve implementers in the choice-making step.

After the solution is implemented, the evaluation phase assesses its effectiveness. If the solution is effective, it should reduce the difference between the actual and desired states that created the problem. If the gap is not closed, the implementation was not successful, and one of the following is true: either the problem was incorrectly identified, or the solution was inappropriate. If the implementation was, indeed, unsuccessful, management can return to the first step, that of problem identification. If the problem was correctly identified, then management should consider implementing one of the previously identified but untried solutions. This process can continue until all feasible solutions have been tried or the problem has changed.[8]

SUMMARISING THE RATIONAL MODEL

Optimising
choosing the best possible solution

The rational model is based on the premise that, when professionals make decisions, they are aiming to solve problems by producing the best possible solution, which is referred to in the literature as **Optimising**. This assumes that managers have:

TABLE 12.1 THREE MANAGERIAL TENDENCIES REDUCE THE EFFECTIVENESS OF IMPLEMENTING SOLUTIONS

Managerial tendency	Recommended solution
The tendency not to ensure that people understand what needs to be done	Involve the implementators in the choice-making step. When this is not possible, a strong and explicit attempt should be made to identify any misunderstanding, perhaps by having the implementor explain what he or she thinks needs to be done and why
The tendency not to ensure the acceptance or motivation for what needs to be done	Once again, involve the implementators in the choice-making step. Attempts should also be made to demonstrate the payoffs for effective implementation and to show how completion of various tasks will lead to successful implementation
The tendency not to provide appropriate resources for what needs to be done	Many implementations are less effective than they could be because adequate resources, such as time, staff, or information, were not provided. In particular, the allocations of such resources across departments and tasks are assumed to be appropriate because they were appropriate for implementing the previous plan. These assumptions should be checked

SOURCE: Modified from G. P. Huber, *Managerial Decision Making* (Glenview, IL: Scott, Foresman, 1980), p. 19.

- Knowledge of all possible alternatives.
- Complete knowledge about the consequences that follow each alternative.
- A well-organised and stable set of preferences for these consequences.
- The computational ability to compare consequences and to determine which one is preferred.[9]

As noted by Herbert Simon (also see Chapter 1) 'The assumptions of perfect rationality are contrary to fact. It is not a question of approximation; they do not even remotely describe the processes that human beings use for making decisions in complex situations.'[10] Thus, the rational model is at best an instructional tool. Since decision makers do not follow these rational procedures, Simon proposed a normative model of decision making.

Simon's normative model

This model attempts to identify the process that professionals actually use when making decisions. The process is guided by a decision maker's bounded rationality. Bounded rationality represents the notion that decision makers are 'bounded' or restricted by a variety of constraints when making decisions. These constraints include any personal or environmental characteristics that reduce rational decision-making. Examples are the limited capacity of the human mind, problem complexity and uncertainty, amount and timeliness of information at hand, importance of the decision and time demands.[11]

Bounded rationality constraints that restrict decision making

In contrast to the rational model, Simon's normative model suggests that decision making is characterised by: limited information processing, the use of judgemental heuristics and a process that involves 'satisficing' with something short of ideal. Each of these characteristics is now explored.

LIMITED INFORMATION PROCESSING

Decision makers are limited by how much information they process because of bounded rationality. This results in the tendency to acquire manageable rather than optimal amounts of information (see also Chapter 8 with regard to information overload). In turn, this practice makes it difficult for

professionals to identify all possible alternative solutions. In the long run, the constraints of bounded rationality cause decision makers to fail to evaluate all potential alternatives.

JUDGEMENTAL HEURISTICS

Judgemental heuristic rules of thumb or shortcuts that people use to reduce information processing demands

Availability heuristic tendency to base decisions on information readily available in memory

Prevalence (or representativeness) heuristic tendency to assess the likelihood of an event occurring based on impressions about similar occurrences

Judgemental heuristics represent rules of thumb or shortcuts that people use to reduce information processing demands.[12] We use them automatically without being aware of it. The use of heuristics helps decision makers to reduce the uncertainty inherent within the decision-making process. Because these shortcuts represent knowledge gained from past experience, they can help decision makers evaluate current problems. They can, however, lead to systematic errors that erode the quality of decisions. There are two common categories of heuristics that are important to consider: the availability heuristic and the representativeness heuristic.

The **Availability heuristic** represents a decision maker's tendency to base decisions on information that is readily available in memory.[13] Information is more accessible in memory when it involves an event that recently occurred, when it is salient (such as a plane crash), and when it evokes strong emotions (such as a shooting incident). This heuristic is likely to cause people to overestimate the occurrence of unlikely events such as a plane crash or a shooting. This bias also is partially responsible for the recency effect discussed in Chapter 4. For example, a supervisor is more likely to give an employee a positive performance evaluation if the employee exhibited excellent performance over the last few months.

The **Representativeness heuristic** is used when people estimate the probability of an event occurring. It reflects the tendency to assess the likelihood of an event occurring based on one's impressions about similar occurrences. A recruiter, for example, may employ a graduate from a particular university because the past three people taken on from this university turned out to be good performers. In this case, the 'establishment attended' criterion is used to facilitate complex information processing associated with employment interviews. Unfortunately, this shortcut can result in a biased decision. Similarly, an individual may believe that he or she can master a new software package in a short period of time because he or she was previously able to learn how to use a different type of software quickly. This estimate may or may not be accurate. For example, it may take the individual a much longer period of time to learn the new software because it requires the person to learn a new programming language.

SATISFICING

Satisficing choosing a solution that meets a minimum standard of acceptance

People 'satisfice' because they do not have the time, information or ability to handle the complexity associated with following a rational process. This is not necessarily undesirable. **Satisficing** consists of choosing a solution that meets some minimum qualifications, one that is 'good enough'. It resolves problems by producing solutions that are satisfactory, as opposed to optimal. Finding a radio station to listen to in your car is a good example of this process. You cannot optimise your choice because it is impossible to listen to all stations at the same time. You thus stop searching for a station when you find one playing a song you like or do not mind hearing.

The 'garbage can' model

This approach, like Simon's normative model, came about as a response to the rational model's inability to explain how decisions are actually made. It assumes that organisational decision making is a sloppy and haphazard process. This contrasts sharply with the rational model, which proposed that decision makers follow a sequential series of steps beginning with a problem and ending with a solution. According to the **'Garbage can' model**, decisions result from a complex interaction between four independent streams of events: problems, solutions, participants and choice opportunities.[14]

'Garbage can' model holds that decision making is sloppy and haphazard

The interaction of these events creates 'a collection of choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be the answer and decision makers looking for work'.[15] A similar type of process occurs in your dustbin. We randomly discard our rubbish and it gets thrown together based on chance interactions. Consider, for instance, going to your dustbin and noticing that the used coffee granules are stuck to banana peel. Can you explain how this might occur? The answer is simple: because they were thrown in at about the same time. Just like the process of mixing rubbish in a

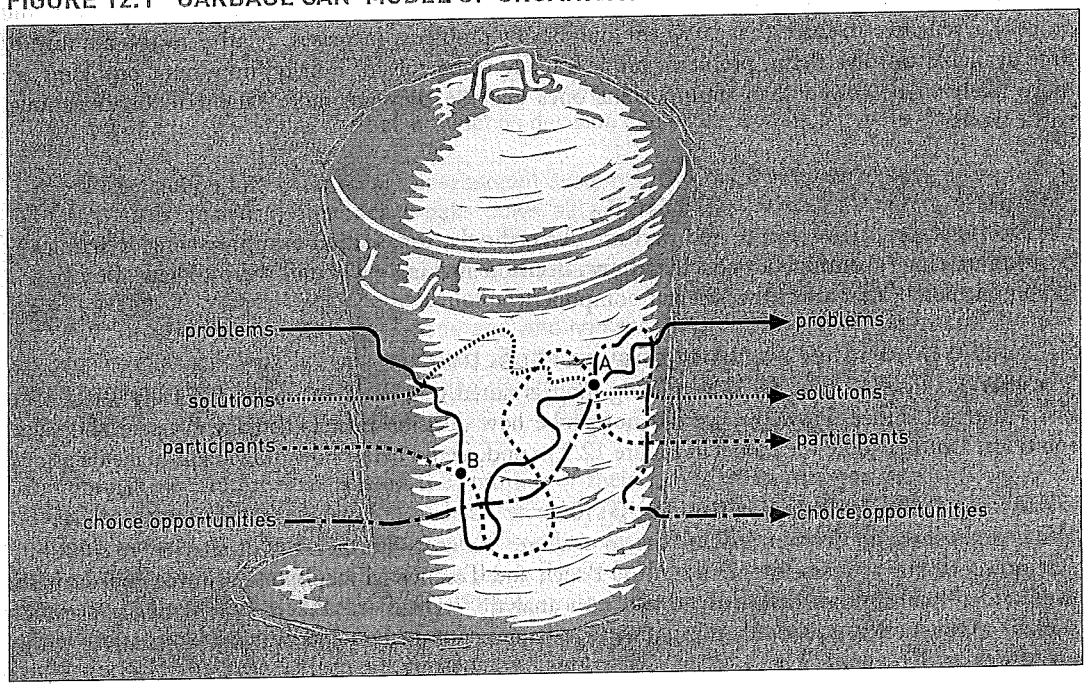
dustbin, the 'garbage can model' of decision making assumes that decision making does not follow an orderly series of steps. Rather, attractive solutions can get matched up with whatever handy problems exist at that time or people get assigned to projects because their workload is low at that moment. This model of decision making thus attempts to explain how problems, solutions, participants and choice opportunities interact and lead to a decision. After discussing the streams of events and how they interact, this section highlights practical implications of this model.

STREAMS OF EVENTS

The four streams of events – problems, solutions, participants and choice opportunities – represent independent entities that flow in and out of organisational decision situations (see Figure 12.1). Because decisions are a function of the interaction between these independent events, the stages of problem identification and problem solution may be unrelated. For instance, a solution may be proposed for a problem that does not exist. This can be observed when students recommend that a test be curved, even though the average test score is a comparatively high 85 per cent. On the other hand, some problems are never solved. Each of the four events in the garbage can model deserves a closer look:

- *Problems.* As defined earlier, problems represent a gap between an actual situation and a desired condition. But problems are independent from alternatives and solutions. The problem may or may not lead to a solution.
- *Solutions.* Solutions are answers looking for questions. They represent ideas constantly flowing through an organisation. Contrary to the classical model, however, solutions are used to formulate problems rather than vice versa. This is predicted to occur because people often do not know what they want until they have some idea of what they can get.
- *Participants.* Participants are the organisational members who come and go throughout the organisation. They bring different values, attitudes and experiences to a decision-making situation. Time pressures limit the extent to which participants are involved in decision making.
- *Choice opportunities.* Choice opportunities are occasions in which an organisation is expected to make a decision. While some opportunities, such as hiring and promoting employees, occur regularly, others do not because they result from some type of crisis or unique situation.

FIGURE 12.1 'GARBAGE CAN' MODEL OF ORGANISATIONAL DECISION MAKING



INTERACTIONS BETWEEN THE STREAMS OF EVENTS

Because of the independent nature of the streams of events, they interact in a random fashion. This implies that decision making is more a function of chance encounters than a rational process. Thus, the organisation is characterised as a 'garbage can' (dustbin) in which problems, solutions, participants and choice opportunities are all mixed together (see Figure 12.1). Only when the four streams of events happen to connect, such as at point A in Figure 12.1, is a decision made. Because these connections randomly occur within the countless combinations of streams of events, decision quality generally depends on timing. (Some might use the term luck.) In other words, good decisions are made when these streams of events interact at the proper time. This explains why problems do not necessarily relate to solutions (point B in Figure 12.1) and why solutions do not always solve problems. In support of the model, one study indicated that decision making in the textbook publishing industry conformed to it. Moreover, knowledge of the model helped the researchers to identify a variety of best-selling textbooks.[16]

RESEARCH FINDINGS AND PRACTICAL IMPLICATIONS

This model of organisational decision making has four practical implications.[17] The first of these is that many decisions will be made by oversight or the presence of a salient opportunity. Consider Coca-Cola Company's 1996 decision to hire a large cargo plane to take an 80-ton bottling line out to a new plant in Vladivostok, Russia:

> Soda sales in Russia were booming. Rather than wait for a ship to deliver the parts for the new line in eastern Russia, Coca-Cola Co. snared an Antonov AN-124, with a cargo bay big enough to hold 10 elephants, to airlift the equipment. Company officials dubbed it the Siberian Express. 'We didn't want to lose any time,' Neville Isdell, then Coke's European chief, said at the time. 'Russia has a big thirst for Coca-Cola; our sales there have quadrupled since 1991.' Today, three years later, much of that demand seems to have evaporated almost as quickly as the company sought to fill it. With Russia's economy in shambles, Coke isn't on most Russian shopping lists.[18]

Coca-Cola's decision to use a cargo plane instead of a ship was based on the perceived opportunity to capture more of Russia's soft-drink market. Moreover, Coca-Cola would perhaps not have made the decision to invest in building bottling plants in Russia had it foreseen the collapse of Russia's economy. Second, political motives frequently guide the process by which participants make decisions. Participants tend to make decisions that promise to increase their status. Third, the process is sensitive to load: that is, as the number of problems increases, relative to the amount of time available to solve them, problems are less likely to be solved. Finally, important problems are more likely to be solved than unimportant ones because they are more salient to organisational participants.[19]

Dynamics of decision making

Decision making is part science and part art. Accordingly, this section examines three dynamics of decision making – contingency considerations, decision-making styles and the problem of escalation of commitment – that affect the 'science' component.

Selecting solutions: a contingency perspective

The previous discussion of decision-making models noted that decision makers typically select solutions that will suffice. However, we did not probe how decision makers actually evaluate and select solutions. Let us explore the model in Figure 12.2 to understand better how individuals make decisions.

STRATEGIES FOR SELECTING A SOLUTION

What procedures do decision makers use to evaluate the costs and benefits of alternative solutions? According to management experts Lee Roy Beach and Terence Mitchell, one of three approaches is used: aided-analytic, unaided-analytic and non-analytic.[20] Decision makers systematically use tools such as mathematical equations, calculators or computers to analyse and evaluate alternatives within an Aided-analytic approach.

Aided-analytic using tools to make decisions