

DECISION-MAKING PROCESSES

Organizational decision making is the process of identifying and solving problems, including the two stages; **problem identification** is the stage in which information about environmental and organizational conditions is monitored to determine if performance is satisfactory and to diagnose the cause of shortcomings; **problem solution** is the stage in which alternative courses of action are considered and one alternative is selected and implemented.

Programmed decisions are repetitive and well defined, and procedures exist for resolving the problem. They are well structured because criteria of performance are normally clear, good information is available about current performance, alternatives are easily specified, and there is relative certainty that the chosen alternative will be successful.

Non programmed decisions are novel and poorly defined, and no procedure exists for solving them. There is uncertainty about whether a proposed solution will solve the problem.

Individual Decision Making

Individual decision making can be described in two ways.

The **rational approach** suggests an ideal method for how managers should try to make decisions.

The **bounded rationality perspective** describes how decisions actually have to be made under severe time and resource constraints

Rational Approach

The rational approach to individual decision making stresses the need for systematic analysis of a problem followed by choice and implementation in a logical, step by step sequence.

According to the rational approach, decision making can be broken down into eight steps.

1. Monitor the decision environment. In the first step, a manager monitors internal and external information that will indicate deviations from planned or acceptable behavior.

2. Define the decision problem. The manager responds to deviations by identifying essential details of the problem: where, when, who was involved, who was affected, and how current activities are influenced.

3. Specify decision objectives. The manager determines what performance outcomes should be achieved by a decision.

4. Diagnose the problem. In this step, the manager digs below the surface to analyze the cause of the problem.

5. Develop alternative solutions. Before a manager can move ahead with a decisive action plan, must have a clear understanding of the various options available to achieve desired objectives.

6. Evaluate alternatives. The merits of each alternative are assessed, as well as the probability that it will achieve the desired objectives.

7. Choose the best alternative. This step is when the manager uses analysis of the problem, objectives, and alternatives to select a single alternative that has the best chance for success.

8. Implement the chosen alternative. Finally, the manager uses managerial, administrative, and persuasive abilities

and gives directions to ensure that the decision is carried out.

Bounded Rationality Perspective

Research into managerial decision making shows that managers often are unable to follow an ideal procedure.

Many decisions must be made very quickly.

Time pressure, a large number of internal and external factors affecting a decision, and the ill-defined nature of many problems make systematic analysis virtually impossible.

The attempt to be rational is limited by the enormous complexity of many problems.

There is a limit to how rational managers can be.

The bounded rationality perspective suggests that managers make decisions based on intuition in circumstances in which: time constraints exist; multiple factors affect a decision; and problems are ill-defined.

The Role of Intuition

Bounded rationality is associated with **intuitive decision making**.

Experience and judgment rather than sequential logic or explicit reasoning are used to make decisions.

In a situation of great complexity or ambiguity, previous experience and judgment incorporate intangible elements at both the problem identification and problem solution stages.

Managers make decisions based on what they sense to be right rather than on what they can document with hard data.

Intuition can also balance and supplement rational analysis to help managers make better decisions.

Organizational Decision Making

Organizations are composed of managers who make decisions using both rational and intuitive processes; but organization-level decisions are not usually made by a single manager. Many organizational decisions involve several managers. Problem identification and problem solution involve many departments, multiple viewpoints, and even other organizations, which are beyond the scope of an individual manager.

Research into organization-level decision making has identified four primary types of organizational decision-making processes.

Management Science Approach

The **management science approach** to organizational decision making is similar to the rational approach by individual managers.

The Management Science Approach uses statistical and mathematical procedures to develop solutions to complex problems. These departments also use such devices as linear programming, Bayesian statistics, PERT charts, and computer simulations.

It is an excellent device for decision making when problems are analyzable and when the variables can be identified and measured.

However, quantitative data do not convey tacit knowledge. Managers have to sense informal cues that indicate problems. In these situations, the role of management science is to supplement manager decision making.

Carnegie Model

The **Carnegie model** of organizational decision making is based on the work of Richard Cyert, James March, and Herbert Simon, who were all associated with Carnegie-Mellon University.

Their research helped formulate the bounded rationality approach to individual decision making, as well as provide new insights about organizational decisions.

The Carnegie Model indicates that organization-level decisions involve many managers and that a final choice is based on a coalition among those managers.

A **coalition** is an alliance among several managers who agree about organizational goals and problem priorities.

Management coalitions are needed during decision making for two reasons.

First, organizational goals are often ambiguous, and operative goals of departments are often inconsistent. When goals are ambiguous and inconsistent, managers disagree about problem priorities. They must bargain about problems and build a coalition around the question of which problems to address.

The second reason for coalitions is that individual managers intend to be rational but function with human cognitive limitations and other constraints. Managers do not have the time, resources, or mental capacity to identify all dimensions and to process all information relevant to a decision. These limitations lead to coalition building behavior. Managers talk to each other and exchange points of view to gather information and reduce ambiguity. People who have relevant information or a stake in a decision outcome are consulted. Building a coalition will lead to a decision that is supported by interested parties.

The process of coalition formation has several implications for organizational decision behavior.

First, decisions are made to *satisfy* rather than to optimize problem solutions.

Satisfying means organizations accept a satisfactory rather than a maximum level of performance, enabling them to achieve several goals simultaneously. In decision making, the coalition will accept a solution that is perceived as satisfactory to all coalition members.

Second, managers are concerned with immediate problems and short-run solutions.

Problemistic search means managers look around in the immediate environment for a solution to quickly resolve a problem.

Managers don't expect a perfect solution when the situation is ill-defined and conflict-laden

The Carnegie model says that search behavior is just sufficient to produce a satisfactory solution and that managers typically adopt the first satisfactory solution that emerges.

Third, discussion and bargaining are especially important in the problem identification stage of decision making. Unless coalition members perceive a problem, action will not be taken.

Incremental Decision Process Model

The **incremental decision model** tells about the structured sequence of activities undertaken from the discovery of a problem to its solution.

Major organization choices are a series of small choices that combine to produce the major decision. Organizations move through several decision points and may hit barriers called *decision interrupts*.

The incremental model has three phases: identification, development, and selection.

Identification phase. The identification phase begins with *recognition*.

Recognition means one or more managers become aware of a problem and the need to make a decision.

Recognition is usually stimulated by a problem or an opportunity.

A problem exists when elements in the external environment change or when internal performance is perceived to be below standard.

The second step is Diagnosis, in which more information is gathered if needed to define the problem situation.

Diagnosis may be systematic or informal, depending upon the severity of the problem. Severe problems do not allow time for extensive diagnosis; the response must be immediate. Mild problems are usually diagnosed in a more systematic manner.

Development Phase. In the development phase, a solution is shaped to solve the problem defined in the identification phase. The development of a solution takes one of two directions. First, *search* procedures may be used to seek out alternatives

within the organization's repertoire of solutions.

The second direction of development is to *design* a custom solution. This happens when the problem is novel so that previous experience has no value.

Mintzberg found that in these cases, key decision makers have only a vague idea of the ideal solution. Gradually, through a trial-and-error process, a custom-designed alternative will emerge. Development of the solution is a groping, incremental procedure, building a solution brick by brick.

Selection Phase. The selection phase is when the solution is chosen.

This phase is not always a matter of making a clear choice among alternatives. In the case of custom-made solutions, selection is more an evaluation of the single alternative that seems feasible.

Evaluation and choice may be accomplished in three ways. The *judgment* form of selection is used when a final choice falls upon a single decision maker, and the choice involves judgment based upon experience.

In *analysis*, alternatives are evaluated on a more systematic basis, such as with management science techniques. Mintzberg found that most decisions did not involve systematic analysis and evaluation of alternatives.

Bargaining occurs when selection involves a group of decision makers. Each decision maker may have a different stake in the outcome, so conflict emerges. Discussion and bargaining occur until a coalition is formed, as in the Carnegie model described earlier.

When a decision is formally accepted by the organization, *authorization* takes place. The decision may be passed up the hierarchy to the responsible hierarchical level. Authorization is often routine because the expertise and knowledge rest with the lower-level decision makers who identified the problem and developed the solution.

Organizational Decisions and Change

Many organizations are marked by a tremendous amount of uncertainty at both the problem identification and problem solution stages. Two approaches to decision making have evolved to help managers cope with this uncertainty and complexity.

One approach is to combine the Carnegie and incremental models just described.

The second is a unique approach called the garbage can model.

Combining the Incremental Process and Carnegie Models

Integrating the Incremental Process and Carnegie Models is possible because the two models do not disagree with each other. They describe how decisions are made when either problem identification or solution is uncertain.

The Carnegie Model is concerned primarily with the problem identification phase in decision making. Coalition building is necessary to reach agreement about which problems to solve. The incremental process model is primarily concerned with the problem solution phase of decision making. Problems are solved a step at a time and may require trial and error and recycling.

Garbage Can Model

The **garbage can model** is one of the most recent and interesting descriptions of organizational decision processes.

It is not directly comparable to the earlier models, because the garbage can model deals with the pattern or flow of multiple

decisions within organizations, whereas the incremental and Carnegie models focus on how a single decision is made.

Organized Anarchy. The garbage can model was developed to explain the pattern of decision making in organizations that experience extremely high uncertainty.

Michael Cohen, James March, and Johan Olsen, the originators of the model, called the highly uncertain

conditions an **organized anarchy**, which is an extremely organic organization.

Organized anarchies do not rely on the normal vertical hierarchy of authority and bureaucratic decision rules.

They result from three characteristics:

1. *Problematic preferences.* Goals, problems, alternatives, and solutions are ill defined. Ambiguity characterizes each step of a decision process.

2. *Unclear, poorly understood technology.* Cause-and-effect relationships within the organization are difficult to identify.

3. *Turnover.* Organizational positions experience turnover of participants. In addition, employees are busy and have only limited time to allocate to any one problem or decision. Participation in any given decision will be fluid and limited.

An organized anarchy is characterized by rapid change and a collegial, non bureaucratic environment.

All the time, although today's Internet-based companies, as well as organizations in rapidly changing industries, may experience it much of the time. Many organizations will occasionally find themselves in positions of making decisions under unclear, problematic circumstances. The garbage can model is useful for understanding the pattern of these decisions.

Streams of Events. The unique characteristic of the garbage can model is that the decision process is not seen as a sequence of steps that begins with a problem and ends with a solution.

Indeed, problem identification and problem solution may not be connected to each other.

An idea may be proposed as a solution when no problem is specified. A problem may exist and never generate a

solution. Decisions are the outcome of independent streams of events within the organization.

The four streams relevant to organizational decision making are as follows:

1. *Problems.* Problems are points of dissatisfaction with current activities and performance.

They represent a gap between desired performance and current activities. Problems are perceived to require attention. However, they are distinct from solutions and choices.

Problem may lead to a proposed solution or it may not. Problems may not be solved when solutions are adopted.

2. *Potential solutions.* A solution is an idea somebody proposes for adoption.

Such ideas form a flow of alternative solutions through the organization.

Participants may simply be attracted to certain ideas and push them as logical choices regardless of problems.

The point is that solutions exist independent of problems.

3. *Participants.* Organization participants are employees who come and go throughout the organization. People are hired, reassigned, and fired. Participants vary widely in their ideas, perception of problems, experience, values, and training.

The problems and solutions recognized by one manager will differ from those recognized by another manager.

4. *Choice opportunities.* Choice opportunities are occasions when an organization usually makes a decision. They occur when contracts are signed, people are hired, or a new product is authorized.

They also occur when the right mix of participants, solutions, and problems exists. Match-ups of problems and solutions often result in decisions.

With the concept of four streams, the overall pattern of organizational decision making takes on a random quality. Problems, solutions, participants, and choices all flow through the organization. In one sense, the organization is a large garbage can in which these streams are being stirred. When a problem, solution, and participant happen to connect at one point, a decision may be made and the problem may be solved; but if the solution does not fit the problem, the problem may not be solved.

Thus, when viewing the organization as a whole and considering its high level of uncertainty, one sees problems arise that are not solved and solutions tried that do not work. Organizational decisions are disorderly and not the result of a logical, step-by-step sequence.

Events may be so ill-defined and complex that decisions, problems, and solutions act as independent events.

When they connect, some problems are solved, but many are not.

Consequences. There are four specific consequences of the garbage can decision process for organizational decision making:

1. *Solutions may be proposed even when problems do not exist.* An employee might be sold on an idea and might try to sell it to the rest of the organization.
2. *Choices are made without solving problems.* A choice may be made with the intention of solving a problem; but, under conditions of high uncertainty, the choice may be incorrect.
3. *Problems may persist without being solved.* Organization participants get used to certain problems and give up trying

to solve them; or participants may not know how to solve certain problems because the technology is unclear.

4. *A few problems are solved.* Important problems were often resolved. Solutions do connect with appropriate problems and participants so that a good choice is made. Of course, not all problems are resolved when choices are made, but the organization does move in the direction of problem reduction.

Contingency Decision

Two characteristics of organizations that determine the use of decision approaches are problem consensus and technical knowledge in organizations.

Problem consensus refers to the agreement among managers about the nature of a problem or opportunity and about which goals and outcomes to pursue. When managers agree, there is little uncertainty—problems, goals, and performance standards are clear. When managers disagree, direction and performance expectations are in dispute, creating uncertainty.

Technical knowledge refers to understanding and agreement about how to solve problems goals. This variable can range from agreement and certainty to disagreement and uncertainty about cause–effect relationships leading to problem solution.

Exhibit 11 describes the **contingency decision-making**.

Cell1: rational decision procedures are used because problems are agreed on and cause–effect relationships are well understood, so there is little uncertainty.

Cell 2: there is high uncertainty about problems and priorities, so bargaining and compromise are used to reach consensus. Problems are decided through discussion, debate, and coalition building, using the Carnegie model.

Cell 3 : situation, problems and standards of performance

are certain, but alternative technical solutions are vague and uncertain. Techniques to solve a problem are ill defined and poorly understood. The incremental decision model describes how organizations use trial and error to solve a problem.

Cell 4: high uncertainty about both problems and solutions is difficult for decision making. Individual managers use **inspiration**, an innovative, creative solution not reached by logical means or **imitation**, adopting a decision tried elsewhere. Elements of the garbage can model appear.