Chapter 5
PROBLEM SOLVING AND DECISION MAKING [PowerPoint Slide 1]

The primary purpose of Chapter 5 is to explain the nature of problem solving and decision making in organizations. A secondary purpose is to highlight the importance of creativity in managerial work. A key assumption underlying this chapter is that the probability of making an effective decision increases if the decision maker is armed with information about decision making.

Four major aspects of problem solving and decision making are covered in this chapter. First is a description of the steps involved in problem solving and decision making. Second is a discussion of important influences on the quality of decision making. Third is a description of group problem solving and decision making. Fourth is a description of the role of creativity in managerial work.

Learning Objectives

_____

1.   Differentiate between nonprogrammed and programmed decisions.
2.   Explain the steps involved in making a nonprogrammed decision.
3.   Understand the major factors influencing decision making in organizations.
4.   Appreciate the value and potential limitations of group decision making.
5.   Understand the nature of creativity and how it contributes to managerial work.
6.   Describe organizational programs for improving creativity.
7.   Implement several suggestions for becoming a more creative problem solver.

Chapter Outline and Lecture Notes

_____

A **problem** is a discrepancy between ideal and actual conditions, while a **decision** is choosing among alternatives.

I. NONPROGRAMMED VERSUS PROGRAMMED DECISIONS [PowerPoint Slide 2]
Unique decisions are nonprogrammed decisions (or nonroutine). When a problem has not taken the same form in the past or is extremely complex or significant,   it calls for a **nonprogrammed decision**. A well-planned and highly structured organization reduces the number of nonprogrammed decisions. Handling a nonprogrammed decision properly requires original thinking. A **programmed decision** is repetitive or routine, and made according to a specific procedure

II. STEPS IN PROBLEM SOLVING AND DECISION MAKING [PowerPoint Slide 3]
Learning how to solve problems and make decisions properly is important. Thomas A. Davenport observes that many managers do not pay careful enough attention to the systematic process of decision making, leading to major errors. Decision making is likely to be more effective when an orderly process is followed, as described in the following steps.

A. Identify and Diagnose the Problem [PowerPoint Slide 3]
Problem solving and decision making begins with an awareness that a problem exists. Being attentive to the environment helps the manager identify problems, such as noticing criticism. A thorough diagnosis is important because the real problem may be different from the apparent one.

B. Develop Creative Alternative Solutions [PowerPoint Slide 3]
All possible alternative solutions should be explored, even if they seem unrealistic.

C. Evaluate Alternative Solutions [PowerPoint Slide 3]
The relative values of the alternatives are compared by examining the pros and cons of each one.

D. Choose One Alternative Solution [PowerPoint Slide 3]
The problem cannot be solved unless an alternative is chosen. The alternative should be chosen that comes closest to achieving the goal that the decision was intended to achieve. Values of the decision maker also influence which alternative is chosen. Degree of ambiguity also influences the alternative chosen, with some people preferring clear alternatives.

E. Implement the Decision [PowerPoint Slide 4]
Until a decision is implemented, it is not really a decision. Implementing decisions encompasses a substantial part of the organizing and leading functions of management. An effective decision is relatively easy to implement.

F. Evaluate and Control [PowerPoint Slide 4]
Evaluation of how well the decision achieved its intended results is critical.

II. BOUNDED RATIONALITY AND INFLUENCES ON DECISION MAKING [PowerPoint Slide 5]
Decision making is seldom logical and systematic. One factor is that intuition enters into making major decisions. Herbert A. Simon has proposed that bounds (or limits) are present in decision making. **Bounded rationality** means that people's limited mental abilities, combined with external influences over which they have little or no control, prevent them from making entirely rational decisions.

The irrational side of decision making ins incorporated into a branch of behavioral economics called *neuroeconomics*. Behavioral economics emphasizes that people are not entirely rational decision makers, such as trying hard to avoid losing money in the stock market instead of increasing profits. A negative attitude toward the number 13 is a widespread example of irrationality.

As a result of bounded rationality, people search for **satisficing decisions,** or those that suffice in providing a minimum standard of satisfaction. Partly because of bounded rationality, decisions makers often use **heuristics,** or simplified strategies that become rules of thumb. A widely-used heuristic is that the percent of equality in your portfolio should equal 100 minus your age, with the rest being invested in fixed-income instruments and cash.

(Coming up with these heuristics is a refreshing class exercise. One student who worked at Kay's Jewelers said a man should spend three month's gross income on an engagement ring. The BMI (body-mass indicator) might be classified as a heuristic.)

A. Intuition [PowerPoint Slide 6]

Effective decision makers rely on intuition as well as analytical and methodological techniques. **Intuition** is an experienced-based way of knowing or reasoning in which weighing and balancing evidence are done unconsciously and automatically. Intuition helps point the executive in the right direction, such as sizing up the overall merits of the company to be acquired.

B. Personality and Cognitive Intelligence [PowerPoint Slide 6]

The personality and cognitive intelligence of the decision maker influence his or her ability to find effective solutions. Propensity for risk taking is an important personality factor. Cautiousness and conservatism are also related to **decisiveness.** *Perfectionism* and *rigidity* also influence decision making. High cognitive intelligence generally improves decision-making quality. Some intelligent people, however, suffer from "analysis paralysis." A persona can typically make the best use of cognitive intelligence when he or she is well rested, or at least not highly fatigued.

C. Emotional Intelligence [PowerPoint Slide 7]

How effective you are in managing your feelings and reading other people can affect the quality of your decision making. **Emotional intelligence** refers to qualities such as understanding one's own feelings, empathy for others, and the regulation of emotion to enhance living. Five key factors are involved in emotional intelligence: (1) self-awareness, (2) self-management of emotion, (3) social awareness including empathy and intuition, and (4) relationship management.

Closely related to the influence of emotional intelligence on decision making is **emotional tagging**, the process by which emotional information attaches itself to the thoughts and experiences stored in our memories. Emotional tagging works much like a positive or negative predisposition or bias.

D. Quality and Accessibility of Information [PowerPoint Slide 8]

High-quality information improves decision making, but many decision makers rely heavily on accessible information. A related factor is that people are influenced by the first information they receive. **Anchoring** occurs when the mind gives too much weight to the first information it receives. .

E. Political Considerations [PowerPoint Slide 9]

Many decisions are based on political considerations such as favoritism, alliances, and the desire to stay in favor with powerful people. The *status quo trap* is a decision-making tied to political factors. You fail to challenge the status quo because you worry that being critical of how things are will invite criticism from key people. The person with integrity is aware of not alienating people in power, yet supports what he or she thinks is the best decision. Revenge is both a political and emotional factor in decision making.

F. Degree of Certainty [PowerPoint Slide 9]
The more certain a decision maker is of the outcome of a decision, the more calmly and confidently the person will make the decision. The three degrees of certainty are certainty, risk, and uncertainty. Risky decisions can be difficult to implement because people may not be confident that the steps will lead to good results. Effective managers often accept a condition of risk.

G. Crisis and Conflict [PowerPoint Slide 10]
In a crisis, many decision makers panic whereas as smaller number are at their best. A recommendation for becoming more adept at decision making under crisis conditions is to anticipate crises, and visualize how you might react to the situation. When conflict is not overwhelming, and is directed at real issues and not personalities, it can be an asset to decision making. It helps to visualize crises ahead of time. Conflict relates to crisis because both can be an emotional experience.

H. Values of the Decision Maker [PowerPoint Slide 10]
All decisions are ultimately based on *values,* such as concern for profits or concern for human welfare. Clinging to the status quo is a value and can be a hidden trap in decision making that can prevent optimum decision making.

I. Procrastination [PowerPoint Slide 10]
Many decision makers are poor decision makers because they **procrastinate**, or delay taking action without a valid reason. Procrastination results in indecisiveness and inaction. The problem can often be overcome by acquiring a higher degree of self-discipline. Although too much procrastination may interfere with effective decision making, rapid decision making is not always the most effective.

J. Decision-Making Styles [PowerPoint Slide 10]
A manager's typical pattern of making decisions is his or her **decision-making style.** According to the Decision Dynamic research, decision different in terms of how information is used, and how options are created. The four styles are (1) decisive (one option, less information), (2) flexible (many options, less information), (3) hierarchic (one option, more information), and (4) integrative (many options, more information).
It is helpful to be aware that such styles exist, and reflect on one's style.

III. GROUP PROBLEM SOLVING AND DECISION MAKING
Most major, nonprogrammed decisions in organizations are made by groups. **Group decisions** result when several people contribute to a final decision. They are an integral part of participative management.

A. Advantages and Disadvantages of Group Decision Making [PowerPoint Slide 1
Group decision making often results in high-quality solutions to problems because many people contribute, and it often leads to commitment. Yet the group approach consumes considerable time and may result in compromise solutions that do not solve the problem. One of the most serious problems associated with group decision making is **groupthink**, a

psychological drive for consensus at any cost. Many instances of groupthink might be caused by decision makers who see themselves as choosing between inevitable losses. The negative aspects of groupthink can often be avoided if the team leader encourages group members to express doubts and criticisms of proposed solutions.

Group decision making should be reserved for non-routine decisions of reasonable importance and for occasions when group acceptance of the decision is important.

B. A General Method of Group Problem Solving [PowerPoint Slide 12]
When a group decision has to be made, workers typically hold a discussion rather than using a formal decision-making technique. The steps outlined in Exhibit 5-4 contribute to effective group decision making.

C. A Specific Method of Group Problem Solving: The Nominal Group Technique [PowerPoint Slides 13, 14]
The **nominal-group technique (NGT)** allows for finding alternatives to problems and evaluating those alternatives. Group members react to each others' suggestions individually and without interacting with each other at early stages of the meeting. Members present one idea for the problem at hand, and other group members evaluate these contributions, through discussion and ratings. The steps involved in the NGT are as follows:
1. *Group members are selected and assembled.*
2. *The group leader presents a specific question.*
3. *Individual members write down their ideas independently.*
4. *Each participant, in turn, presents one idea to the group without discussion.*
5. *After each group member has presented his or her ideas, the group clarifies and evaluates the suggestions.*
6. *The meeting ends with a silent, independent rating of the alternatives.*

III. CREATIVITY AND INNOVATION IN MANAGERIAL WORK
Creativity is an essential part of problem solving and decision making. It is the process of developing novel ideas that can be put into action. By emphasizing the application of ideas, creativity is closely linked to innovation.

A. The Creative Personality [PowerPoint Slide 15]
Creative people are generally emotionally open and mentally flexible. They are   therefore able to overcome the traditional way of looking at things, "think outside the   box." Creative thinkers break the rules. A key part of being creative is to think laterally. **Lateral thinking** spreads out to find many different solutions to a problem. **Vertical thinking,** in contrast, is an analytical, logical process that results in few answers.

B. Conditions Necessary for Creativity [PowerPoint Slide 16]
Certain individual and organizational conditions are necessary for, or at least enhance, the production of creative ideas.

1.*Expertise, Creative-Thinking Skills, and Internal Motivation. C*reativity takes place when three components join together. Expertise refers to the necessary knowledge to put the facts together. Creative-thinking skills are important, such as knowing how to keep digging for alternatives, and not getting caught in the status quo. Motivation for creativity centers on being motivated primarily by the satisfaction and challenge of the work itself. The **flow experience** is a condition of heightened focus, productivity and happiness.

2. *Environmental Need Plus Conflict and Tension.* Factors outside the individual are also important. An environmental need must stimulate the setting of a goal, and there should be enough conflict and tension to put people on edge.

3. *Encouragement from Others.* Encouragement, including a permissive atmosphere that welcomes creativity facilitates creativity. Not punishing for mistakes also helps. A study suggested that encouragement from family and friends, as well as from a supervisor, enhances job creativity.

C. The Creative and Innovative Organization [PowerPoint Slide 19]
Certain managerial and organizational practices foster creativity. The atmosphere must encourage creative expression, such as not punishing people for making honest mistakes. In general, a permissive atmosphere is appropriate for nurturing innovation. Financial rewards for creative suggestions are useful. Five categories of activities summarize much of what is known about what managers can do to establish a creative atmosphere:

1. *Challenge.* The right type and amount (not overwhelming) is important.
2. *Freedom.* Employees should have the freedom to choose how to accomplish a goal.
3. *Resources.*   Managers need to allot time and money carefully to enhance creativity.
4. R*ewards and recognition for creative ideas.* Even if internal motivation is important for innovation, external rewards and recognition are helpful.
5. *Allocating time for innovative thinking.* Workers need time to think to be creative, with 3M and Google being examples of companies that grant time for creative thinking.
6. *Building on the ideas of each others.* A specific form of encouragement that contribute to innovation is looking for the kernel of value in the imaginative suggestions of others, and adding value to those ideas.
 7. *Greater diversity in groups.* Intellectual diversity, in particular, fans the fire of creativity.

As designated by *Bloomberg Business Week*, three companies successful in fostering creativity and innovation are Apple, the Tata Group, and Coca Cola.

D. Organizational Programs for Improving Creativity {PowerPoint Slide 20]
Another aspect of the creative organization is formal programs or mechanisms for creativity
improvement.

        1. C*reativity Training.* A variety of techniques are used to encourage more flexible
          thinking, such as engaging in child play, squirting each other with water guns,
          and scavenger hunts. Cerebral techniques, such as asking "what if" questions, are
          also used.

       2*. Brainstorming*. The best-known method of improving creativity and generating
         fresh solutions to problems is **brainstorming** in which group members
         spontaneously generate numerous solutions to a problem without being
         discouraged or controlled. The presence of a trained facilitator enhances the
         productivity of brainstorming sessions. Assigning fieldwork to brainstorming
         participants prior to the meeting can be helpful. Natural light in the room may
         stimulate brainstorming. Microsoft used brainstorming to find a new name for its
         search engine, with "Bing" the result. The rules of brainstorming can also be
         regarded as goals, such as giving everybody an opportunity to contribute.
         [PowerPoint Slide 21]

      3. *Systematically Gathering Idea.* A powerful approach to developing an innovative
organization is to systematically gather ideas from people inside and outside the firm. Under a
program of idea quotas, being creative becomes a concrete work goal. Using quotas, creative
ideas receive a financial reward. Wooden suggestions boxes have been replaced by an online
system for offering suggestions.

      4. *Appropriate Physical Surroundings.* The general idea is that creativity is
         facilitated when the physical environment allows for the flow of ideas.
        However, many workers need private space to do their best creative thinking.

E. Self-Help Techniques for Improving Creativity [PowerPoint Slide 22]
        Self-help techniques have the best potential for improving creativity because they can
        be practiced frequently and not just during a training program. The general goal is to
        increase the flexibility of one's thinking.

        1. *Six Specific Creativity-Building Suggestions.* The six suggestions presented in the
         text, such as staying current in one's field, are all aimed at increasing mental
         flexibility. "Identify the times when you are the most creative" should interest
         students.

        2. *Play the Roles of Explorer, Artist, Judge, and Lawyer.* This approach encompasses
         many of the ideas already presented, and points out the various roles played by a
         creative person in business. For example, one has to evaluate wild ideas and attempt
         to sell the most feasible one to management.

        3. *Engage in Appropriate Physical Exercise.* A well-accepted method of stimulating
         creativity is to engage in physical exercise. Perhaps exercise pumps more oxygen
         into the brain, and that exercise enhances activity in the frontal lobe, the region of
         the brain involved in abstract reasoning and attention.