

LECTURES 6& 7

DECISION MAKING AND PROBLEM SOLVING

Meaning of a Problem

The word *problem* is used in the broad sense: one has a problem when one has a need or question but no obvious answer to it. In this case, all mental dissatisfactions and the quest to grasp the essence of the unknown; be it physical or psychological fall within domain of what is rightly defined as “*problem*”.

Decision Making

Decision making can be defined as the mental processes (cognitive process) resulting in the selection of a course of action among several alternative scenarios. Every decision making process produces a definite solution that characterize our actions, opinions and choice.

Phases of Decision Making and Problem Solving

The general procedure for applying critical thinking to any problem can be described as a cycle with five phases. This cycle should however not be treated as a rigid procedure in which each phase must be complete before the next is begun. In practice, you may have to go back to the earlier phase or work on several phases simultaneously. But if you need to have any real assurance that your ultimate decision is sound, then all phases must be complete. The details of each phase may vary depending on the problem at stake, but the general principles apply to all situations.

The first phase of problem solving involves *recognition and definition of the issue at stake*. Generally speaking, a typical process of decision-making begins with the recognition of a problem. It is commonly true, that many problems are never solved because they are not recognized soon enough or not recognized at all. For example, some freshmen fail in college because they do not recognize soon enough that their study habits are inadequate or that they are in an unsuitable curriculum.

Once a problem has been recognized, it should be carefully defined. Failure to attain a clear definition of a problem will always result in obtaining unsuccessful solutions or you may end up solving “some” problem but not the one that you were trying to solve.

In many situations, defining the problem will be the most difficult phase in decision-making. But once you have correctly defined the problem, the rest will be relatively easy.

There are three rules that must be followed in defining the problem.

- 1) *the definition should not be too general*. This is true because if the definition is too broad, the guidelines for a solution will be too broad, and the investigation may flounder. Large

problems can be very real, but their solution usually requires breaking them down into smaller, clearly defined segments in order to solve them one at a time.

2. *the definition should not be too specific.* A definition of a problem is said to be too specific when it unnecessarily restricts alternative solutions. When the definition of the problem is too specific, it will always lead to temporary solutions because it will have ignored other significant aspects that led to its emergence.
3. *the definition should not in itself constitute a “solution” to the problem.* Suppose that in each year, there is a problem of mass drop-out of Masters Students in the School of Humanities and Social Sciences at Kenyatta university in Kenya, and the Dean of School defines the problem as due to lack of scholarships and/or financial limitations on the part of students. The Dean’s definition would in itself have contained the “solution” that more scholarships and financial assistance be extended to masters program students, the result of which rule out other solutions for consideration.

The second phase in problem solving is the *gathering of information*. Once a problem is explicitly defined, one should begin to gather information about it. The information may be of many kinds. The detective may call his or her information “clues”; the doctor speak of “symptoms”; the scientist, of “data”; the layperson or government leader, of “facts.” Adequate and accurate information is essential to sound decisions. In general, the more information you have on which to base your decision, the more likely it is that the decision will be sound.

The third phase of decision-making is the *formation of tentative conclusions* which represent solutions to the problem. This can be done as soon as we have enough information to suggest some possible answers. Solutions at this stage are only tentative and so we shouldn’t allow ourselves to be carried away by them.

The objective in this phase is not to settle on one conclusion but rather to formulate as many plausible tentative conclusions as possible. The more tentative conclusions we produce the more likely we are to conclude a sound one. Forming several tentative conclusions is the best safeguard against the dangers of accepting or acting upon a proposed conclusion without adequate evidence. In this phase, it is desirable to give attention to every idea that comes to the mind. This is important because often, ideas you impatiently reject as wild or irrelevant turn out to be solutions of problems or important clues to solutions.

The fourth phase is *testing of tentative conclusions*. The objective of this phase is to “criticize” all tentative conclusions by assessing their reliability. All tentative conclusions are reached through some kind of inference, a process of reasoning by which they are derived from evidence or available facts.

Role of Critical Thinking in Decision Making and Problem

- Enhances the rationality of decisions and problem solving.
- Raises decision-making and problem-solving to the level of conscious and deliberate choice.
- Helps us to avoid short-term and spontaneous decision-making and problem-solving

Categories of Decisions we Make

- 1) Basic Human needs-we all make choices and decisions as to how to satisfy these needs
- 2) Chosen Values-we also make choices and decisions in relation to the values that we impose upon ourselves.
- 3) Implications to the wellbeing of others.

Note:

- Decisions that undermine and harm the wellbeing of others are unethical
- Decisions and values that undermine and harm ourselves are irrational and unethical

Common Patterns of Irrational/Unethical Decision Making

1. Deciding to behave in ways that undermine our welfare.
2. Not to engage in activities that contributes to our long term welfare.
3. Deciding to behave in ways that undermine another's welfare.
4. Deciding to associate with people who encourage us to act against our own welfare and others welfare.

Main Reason for Such Self Defeating/Self Harming Decision:

-Immediate gratification and *short-term* gain i.e. we make decisions with immediate pleasure and the short run uppermost in our minds, we tend to be driven by hedonistic tendencies.

-Indeed our mind seems to be 'wired' for immediate and short- run gratification.

Important Facts about Problem Solving

-Some problems solve themselves

-Most problems must be solved one way or the other or else may get worse

Types of Problems

-Problems we ourselves have created by our decisions and behavior (easier to solve by reversing earlier decisions or modifying behavior)

-Problems created by forces outside of us

Each of these can be divided into two groups

-problems we can solve in part or whole

-problems beyond our control

Things to avoid in Problem Solving

-Pseudo-solutions solutions that seem to solve the problem but they do not.

-Solutions that solve the problem at the expense of others

-Pseudo problems these arise when we seek to satisfy false needs and obtain irrational ends. Pseudo problems are dissolved not solved

Big Problems

-Problems for which our responses will have long term consequences

-Problems whose long term consequences must be discovered.

Problem Solving Skills

- 1) Regularly rearticulate and re-evaluate our goals, purposes and needs. This is because problems mainly arise because of:

-Obstacles to reaching our goals or satisfying our needs

-Misconceptions about our goals purposes

- 2) Identify problems explicitly and analysis them. This enables to avoid being vague about the problem or hiding the problem
- 3) Figure out the information needed and actively seek that information. Almost all the problem solving requires acquisition of key relevant information.
- 4) Carefully analyse, interpret and evaluate the information. This enables one to:
 - To make sense of and give meaning to the information
 - To avoid falsehoods deceptions and distortions
 - To check reliability and relevance of the source
 - To make reasonable inference

Decision making styles

Besides the attention given to decision rationality, another approach to behavioral decision making focuses on the styles that managers use in choosing among alternatives. For instance, one decision-style typology using well-known managers as representative examples identified the following:

1. *Charismatics* (enthusiastic, captivating, talkative, dominant): Virgin Atlantic's Richard Branson or Southwest Airlines' founder Herb Kelleher;
2. *Thinkers* (cerebral, intelligent, logical, academic): Dell Computer's Michael Dell or Microsoft's Bill Gates;
3. *Skeptics* (demanding, disruptive, disagreeable, rebellious): Steve Case of AOL-Time Warner or Tom Siebel of the software developer Siebel Systems;
4. *Followers* (responsible, cautious, brand-driven, bargain-conscious): Peter Coors of Coors Brewery or former Hewlett-Packard head Carly Fiorina; and
5. *Controllers* (logical, unemotional, sensible, detail oriented, accurate, analytical): Ford's former CEO Jacques Nasser or Martha Stewart, Omnimedia).

These and other styles reflect a number of psychological dimensions including how decision makers perceive what is happening around them and how they process information.

A simple 2X2 behavioral decision-making style matrix can be categorized into two dimensions: value orientation and tolerance for ambiguity. The value orientation focuses on the decision maker's concern for task and technical matters as opposed to people and social concerns. The tolerance for ambiguity orientation measures how much the decision maker needs structure and control (a desire for low ambiguity) as opposed to being able to thrive in uncertain situations (a desire for high ambiguity). These two orientations with their low and high dimensions are portrayed with four styles of decision making: directive, analytical, conceptual, and behavioral.

1. *Directive Style*: Decision makers with a directive style have a low tolerance for ambiguity and are oriented toward task and the technical concerns. These decision makers tend to be efficient, logical, pragmatic, and systematic in their approach to problem solving. Directive decision makers also like to focus on facts and get things done quickly. They also are action oriented, tend to have a very short-run focus, like to exercise power, want to be in control, and, in general, display an autocratic Leadership Style
2. *Analytical Style*: Analytical decision makers have a high tolerance for ambiguity and a strong task and technical orientation. These types like to analyze situations; in fact, they often tend to overanalyze things. They evaluate more information and alternatives than do directive decision makers. They also take a long time to make decisions, but they do respond well to new or uncertain situations. They also tend to have an autocratic leadership style.
3. *Conceptual Style*: Decision makers with a conceptual style have a high tolerance for ambiguity and strong people and social concerns. They take a broad perspective in solving problems and like to consider many options and future possibilities. These decision makers discuss things with as many people as possible in order to gather a great deal of information and

then rely on intuition in making their decisions. Conceptual decision makers are also willing to take risks and tend to be good at discovering creative solutions to problems. At the same time, however, they can foster an idealistic and indecisive approach to decision making.

4. Behavioral Style: The behavioral style decision maker is characterized by a low tolerance for ambiguity and strong people and social concerns. These decision makers tend to work well with others and like situations in which opinions are openly exchanged. They tend to be receptive to suggestions, are supportive and warm, and prefer verbal to written information. They also tend to avoid conflict and be overly concerned with keeping everyone happy. As a result, these decision makers often have a difficult time saying no to people, and they do not like making tough decisions, especially when it will result in someone being upset with the outcome.