Chapter 2: Decision-Making

2.1 The Decision-Making Process

The following figure describes a typical approach to decision making and problem solving.

![Decision Making Process Diagram]

Figure 2.1: Steps in decision making and problem solving

1- Identifying and defining the problem.
2- Generating and evaluating possible solutions.
3- Choosing a preferred solution and conducting the "ethics double check"
4- Implementing the Solution.
5- Evaluating the results.

2.1.1 Identify and Define the Problem

This is a stage of information gathering, information processing, and deliberation. It often begins with the appearance of problem symptoms, which signal the presence of a performance deficiency or opportunity.

The way a problem is originally defined can have a major impact on how it is eventually resolved. Three common mistakes may occur at this step.

**Mistake Number 1** is defining the problem too broadly or too narrowly.

**Mistake Number 2** is Focusing on symptoms instead of causes.

**Mistake Number 3** is choosing the wrong problem to deal with. Managers should set priorities and deal with the most important ones first.
2.1.2 Generate and Evaluate Possible Solutions

At this stage more information is gathered, data are analysed, and the pros and cons of possible alternatives are identified.

The involvement of other persons is important in order to maximize information and build commitment.

Common errors in this stage include selecting a particular solution too quickly, and choosing an alternative that has damaging side effects.

Typical criteria for evaluating alternatives include:
- Benefits
- Costs
- Timeliness
- Acceptability
- Ethical soundness

2.1.3 Choose Solution and Conduct the "Ethics Double Check"

At this point, a "decision" is made to select a particular course of action. Just how this is done and by whom must be resolved in each problem situation. In some situations, the best alternative may be selected using a cost-benefit criterion; in others, additional criteria may come into play.

2.1.4 Implement the Solution

After selecting the preferred solution, appropriate action plans must be established and implemented. Nothing new can or will happen according to plan unless action is taken. Managers need the ability and willingness to implement the decision.

Difficulties at this stage often can trace to the lack-of-participation error, or the failure to involve those whose support is necessary.

2.1.5 Evaluate Results

The decision making process is not complete until results are evaluated. If the desired results are not achieved, the process must be renewed to allow for corrective action. This evaluation is a form of managerial control.

In any evaluation, both the positive and negative consequences of the chosen course of action should be examined. Problem solving becomes a dynamic and ongoing activity within the management process.
2.2 Decision-Making Models

Management theory recognizes differences between two major models of decision making. These are:

- The classical decision model, and
- The behavioural (administrative) decision model. Figure 2.2 shows these models, in addition to judgment heuristics approaches to decision making.

<table>
<thead>
<tr>
<th>Classical model</th>
<th>Administrative model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Views manager as acting with complete information in a certain environment</td>
<td>Views manager as having cognitive limitations and acting with incomplete information in risk and uncertain environments</td>
</tr>
<tr>
<td>- Clearly defined problem</td>
<td>- Problem not clearly defined</td>
</tr>
<tr>
<td>- Knowledge of all possible alternatives and their consequences</td>
<td>- Knowledge is limited on possible alternatives and their consequences</td>
</tr>
<tr>
<td>- Optimizing decision – choice of the &quot;optimum&quot; alternative</td>
<td>- Satisfying decision – choice of the &quot;satisfactory&quot; alternative</td>
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<table>
<thead>
<tr>
<th>Judgmental heuristics approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heuristics are adopted to simplify managerial decision making</td>
</tr>
<tr>
<td>Decisions are influenced by:</td>
</tr>
<tr>
<td>- Information readily available in memory – the available heuristic</td>
</tr>
<tr>
<td>- Comparison with similar circumstances – the representatives heuristic</td>
</tr>
<tr>
<td>- Current situation – the anchoring and adjustment heuristic</td>
</tr>
</tbody>
</table>

Figure 2.2: Classical administrative and judgmental heuristics approaches to decision making

2.2.1 The Classical Decision Model

It views the manager as acting in a certain world. Here, the manager faces a clearly defined problem and knows all possible alternatives and their consequences. As a result, he can make an optimizing decision that gives the absolute best solution. This model is a very rational approach that assumes perfect information is available.
2.2.2 Behavioural Scientists Question: The Assumptions of the Classical Model

They recognize the existence of cognitive limitations, or limits to our human information-processing capabilities. They create a bounded rationality which means that decisions are rational only within the boundaries defined by the available information. The administrative decision model assumes that people have only partial knowledge about alternatives and their consequences.

Consequently, the first alternative that appears to give a satisfactory resolution is likely to be chosen. This tendency is called sacrificing.

2.2.3 Judgmental Heuristics

Faced with complex environments, limited information, and cognitive limitations, people tend to use simplifying strategies for decision making. These strategies are called heuristics, and their use can cause decision errors. Awareness of judgmental heuristics, and their potential biases can help improve decision-making capabilities.

There are 3 main types of heuristics, shown in previous Figure 2.2:

- The availability heuristic.
- The representatives heuristic.
- The anchoring & adjustment heuristic.

2.3 Decision Trees

Most decisions are complicated and involve a series of steps. These steps are interdependent, i.e., each step is influenced by the step that precedes it.

A decision tree is a graphic decision making tool typically used to evaluate decisions containing a series of steps.

Figure 2.3 is a basic decision tree illustrating the steps of the decision made in the following example.

Example on decision tree:
A company must decide whether:
a) to build a small plant, or
b) to build a large plant to produce a new product with an expected life of 10 years.

If the choice is to build a large plant, the company could face:
1. High average demand,
2. Low average demand, or
3. High initial and then low demand.
If the small plant is built and high demand exists during an initial 2-year period, management could then choose whether to expand the plant (Decision point 2).

Whether the decision is made to expand or not to expand, management could face either:
1. High demand, or
2. Low demand.

![Decision Tree Diagram]

**Figure 2.3: Basic decision tree**

If the choice to build a small plant, demand could be:
1. Initially high, or
2. Initially low.
After various possible alternatives have been outlined, the financial result of each course of action must be compared. To do so, management must:

1) **Study estimates of investments** necessary for building a large plant, for building a small plant, and for expanding a small plant.

2) **Weigh the probabilities of facing different demand levels** for various decision alternatives.

3) **Consider project income yields** for each decision alternative. Analysis of the expected values and net expected gain for each alternative helps management to decide on an appropriate choice.

### 2.4 Personal Decision Framework

Not all managers go about making decisions in the same way. **These differences can be explained by the concept of personal decision style.** This concept refers to differences among people with respect to how they perceive problems and make decisions. There are **4 major decision styles**:

- a) Directive
- b) Analytical
- c) Conceptual
- d) Behavioural.

Figure 2.4 illustrates the role of personal style in the decision making process.

<table>
<thead>
<tr>
<th>Situation</th>
<th>Personal Decision Style</th>
<th>Decision Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Programmed / non programmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Classical / administrative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Decision steps</td>
<td>• Directive</td>
<td>• Best solution to problem</td>
</tr>
<tr>
<td></td>
<td>• Analytical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Conceptual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Behavioural</td>
<td></td>
</tr>
</tbody>
</table>

**2.4.1 The Directive Style**

It is used by people who prefer simple, clear-cut solutions. Managers who use this style often make decisions quickly because they don't like to deal with a lot of information and may consider only one or two alternatives. People who prefer this style generally are efficient and rational and prefer to rely on exiting rules or procedures.
2.4.2 In the Analytical Style

On the other hand, managers like to consider complex solutions based on as much data as they can gather, they carefully consider alternatives and often base their decisions on objective, rational data. They search for the best possible decision based on the information available.

2.4.3 In the Conceptual Style

People like to consider a broad amount of information. However they are more socially oriented than those with an analytical style and like to talk to others about the problem and possible alternatives for solving it. They like to solve problems creatively.

2.4.4 The Behavioural Style

Is often adopted by managers having a deep concern for others as individuals. They like talk to people one-on-one and understand their feelings. They are usually concerned with the personal development of others and may make decisions that help others achieve their goals.

2.5 Increasing Participation in Decision Making

Managers do make decisions as individuals, but decision makers more often are part of a group. Indeed, major decisions rarely are made entirely by an individual. Effective decision making often depends on whether managers involve the right people in the right ways in helping them solve problems, as shown in Table 2.1.

Table 2.1: Advantages and disadvantages of participative decision making

<table>
<thead>
<tr>
<th>A- Advantages</th>
<th>B- Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Broader perspective for problem definition and analysis.</td>
<td>• Time-consuming; wasted resources if used for programmed decisions.</td>
</tr>
<tr>
<td>• More knowledge, facts, and alternative can be evaluated.</td>
<td>• Compromise decisions may satisfy no one.</td>
</tr>
<tr>
<td>• Discussion clarifies ambiguous problems and reduces uncertainty about alternatives.</td>
<td>• Groupthink: Group norms may reduce dissent and opinion diversity.</td>
</tr>
<tr>
<td>• Participation fosters member satisfaction and support for decision</td>
<td>• No clear focus for decision responsibility</td>
</tr>
</tbody>
</table>
2.6 Improving Decision - Making Breadth and Creativity

In today's fast-changing world, decisions often must be made quickly and an organization's ability to stimulate the creativity and innovativeness of its employees is becoming increasingly important. Competitive pressures are challenging managers to create environments that foster and support creative thinking and shaping of diverse opinions. In addition, the growing use of information technology is making it easier than ever to share information. An environment in which bosses make all decisions and hand them down to frontline workers is becoming inappropriate and inefficient.

How can managers pursue the advantages of participation and overcome some of the disadvantages?

A Number of techniques have been developed to help individuals and groups make better decisions. The two common techniques are:

a) Brainstorming and b) Devil's advocate.

a) **Brainstorming** uses a face-to-face, interactive group to spontaneously suggest ideas for problem solution. The technique encourages members to suggest alternatives regardless of their likelihood of being implemented. No critical comments are allowed until all suggestions have been listed. The object of brainstorming is to promote freer, more flexible thinking and to enable group members to build on one another's creativity.

b) Another technique is to **assign a devil's advocate** the role of challenging the assumptions and assertions made by the group. The devil's advocate forces the group to rethink its approach to the problem and to avoid reaching premature consensus or making unreasonable assumptions before proceeding with problem solutions.