Chapter Twenty

Decision making

Objectives:

To develop an understanding of:

- Types of Decisions
- Decision making process
- Behavioral Influences on Decision Making
- Different Decision Making Styles
- Group Decision Making
- Creativity in group decision-making.
- Types Of Organizational Decision Making Processes
- Contingency Framework For Using Decision Models
- Tools for Decision-Making
- A Systematic Approach to Decision Making
- Organizational Constraints
- Cultural Differences in Decision Making

Introduction

Quality of the decisions that managers make is the yardstick of effectiveness. Management is decision making; however, decision-making is also fundamentally a people process.

Types of Decisions

Two primary types of decisions:

1. Programmed—repetitive and routine with a definite procedure for handling them. It is handled through rules and standard operating procedures without expending substantial resources and more recently, via mathematical models.
2. **Non-programmed**—novel and unstructured with no established procedure for handling the problem. It is characterized by an absence of procedures because the problem is unique or complex and very important. It requires special treatment and is usually handled via general problem-solving processes, judgment, intuition and creativity. Advancements in improving non-programmed decision-making have not been as great as for programmed decisions

*Managerial decision-making:*

1. Top management focuses on non-programmed decision-making,
2. First-level managers focus on programmed decision-making.
3. Middle managers focus mostly on programmed decision making.

If top management focuses on programmed decision-making then organizational planning is neglected, short-run control is overemphasized and delegation of authority is insufficient.

**Decision making process**

*A Rational Decision Making Process*

Decisions are the means to certain ends. They are the organizational mechanisms that attempt to achieve a desired state. Decisions are organizational responses to problems and outcomes of a dynamic process.

*Steps in Rational Decision Making Process*

1. **Establishing specific goals and objectives and measuring results**-

   Objectives specify desired decision outcomes and serve as guidelines in the decision process.

2. **Problem identification and definition**—The problem comes to light when a gap exists between performance levels specified by organizational objectives and actual levels.

*Types of problems:*

i. Opportunities—these must be found.

ii. Crisis—problems of this kind find the manager.

iii. Routine problems.

*Defining the problem is hindered by three factors:*

i. Perceptual problems—information (especially negative) is often selectively perceived which distorts its true meaning.
ii. Defining problems in terms of solutions—i.e., jumping to conclusions

iii. Identifying symptoms as the problem

3. Establishing priorities—Scarce resources demand that managers deal with problems in order of significance.

Significance determined by: 
1. Urgency—time pressure.
2. Impact—seriousness of the problem's effects.

4. Consideration of causes—the search for causes often leads to a new and better problem statement.

5. Development of alternative solutions—a search process constrained by time and cost factors.

6. Evaluation of alternative solutions—it should be:
   a. Guided by objectives (step 1).
   b. Assessed in terms of its potentially favorable and negative outcomes.
   c. The alternative-outcome relationship is based on three possible considerations:
      i. Certainty—you have complete knowledge of the probability of each alternative's outcome.
      ii. Uncertainty—you have no knowledge of the probability.
      iii. Risk—you have some probabilistic estimate of the outcomes of each alternative.
      This is the most common situation.

7. Solution selection: With multiple objectives, often the objectives can't be optimized simultaneously; with two objectives, one is optimized, the other is sub-optimized. Situations exist where attaining an organizational objective is done at the expense of a societal objective. In managerial decision-making, optimal decisions are often impossible. Instead of an optimizer, the decision maker is a satisfier, selecting the alternative that meets an acceptable standard.

8. Implementation: It usually involves people. Decisions must be transformed into behavior.

9. Follow-up—Involves periodically measuring the decision results (comparing to planned results specified by the objectives) and acting to reduce/eliminate the desired-actual results gap.

Actions can include:
   i. Changing implementation. ii. Changing the implementation strategy.
iii. Changing the objective (it’s unrealistic). iv. Changing the decision c and/or d (reactivate the entire decision process).

**Alternatives to Rational Decision Making** - Decision makers do not always follow the letter of decision-making. Time pressures, incomplete information, limited human resources, and many other factors are involved. Herbert Simon called this approach to decision-making, *Bounded Rationality*. Within the concept there is also selective perception. In this approach, the following assumptions are made:

1. Decision makers rarely have all the information they need or want.
2. Decision makers are not aware of all possible alternatives and cannot predict consequences.
3. Early alternatives and solutions are quickly adopted because of constraints and limitations.
4. The organization’s goals constrain decision-making.
5. Conflicting goals of different constituents can restrict decisions, forcing a compromise solution.

Sometimes managers make decisions based on a ‘gut’ feeling or intuition. Intuitive decision-making occurs frequently because of high levels of uncertainty, there is no history or past experience to draw on, time pressure is intense, and there can be an excessive number of alternatives to examine.

**Behavioral Influences on Decision Making**

A. **Values**: Values are the guidelines used when confronting a situation that requires a choice. Values are acquired early in life and exert a profound influence on the decision-making process, influencing:

   a. Establishing objectives (making value judgments about selecting opportunities and assigning priorities).
   
   b. Developing alternatives (making value judgments about selecting opportunities and assigning priorities).
   
   c. Selecting an alternative.
   
   d. Implementing (values influence means chosen).
   
   e. Evaluating and control (value judgments affect corrective action taken).

B. **Propensity for risk**: A personality characteristic that strongly influences decision-making by affecting selection of objectives, and alternative evaluation and selection. Decision is affected by whether potential outcomes are characterized in terms of losses or gains, which in turn depends on how the decision maker "frames" the decision.

C. **Potential for dissonance** - Cognitive dissonance theory— asserts that often inconsistency/disharmony exists among the decision maker's attitudes, beliefs and values after a decision is made—a conflict between what he/she know/believes and what was done. Anxiety occurs and intensifies when the decision is important, involves a number of foregone alternatives, involve foregone alternatives with many favorable features.

Rather than admit the mistake, the decision maker often reduces dissonance by:
a. Seeking information that supports the decision.

b. Distorting other information to support the decision.

c. Adopting a less favorable view of the foregone alternatives.

d. Underestimating the importance of negative aspects and exaggerate the importance of positive aspects.

D. Escalation of commitment. It refers to an increasing commitment to a previous decision when a "rational" decision maker would withdraw. This "loss of objectivity" results from:

a. A need to turn a losing or poor decision into a winning or good decision.

b. Excessive ego involvement; threatens self-esteem.

c. Peer pressure; makes it difficult to reverse a course of action publicly supported in the past.

E. Culture, not behavior alone, influences the decision maker

Different Decision Making Styles

All individuals bring their style to the decision making process. Research has found that there are four broad types of styles:

(1) Directive: fast decisions; focus on short term

(2) Analytic: careful analysis; and tackle all types of problems

(3) Conceptual: Creative solutions; long range focus

(4) Behavioural: Team working; conflict avoidance

The four styles emerge from the premise that people differ along two broad dimensions:

(a) Way of thinking : (i) logical rational, serial way of thinking, (ii) Creative, intuitive, holistic

(b) Tolerance for ambiguity : Some people are uncomfortable with broad overlapping, and blurred boundary issues; they have a need for structure, compartments and interconnections. Whilst some are quite comfortable with situations with ambiguous and overlapping components, and can process many thoughts at the same time.

• People using the Directive style have low tolerance for ambiguity.

• People of analytic style have a much greater tolerance for ambiguity.
• People with conceptual style tend to have broad outlooks and normally good at taking creative decisions after generating several alternatives.

• Persons with behavioural style work well with others and readily accept suggestions. They work best in a group setting with good communications and many meetings to obtain consensus and avoid conflict.

Group Decision Making

Group decision-making is prevalent in organizations, especially in non-programmed problems. They help in decisions where the manager must seek and combine judgments. Complexity of non-programmed decisions requires specialized knowledge in numerous fields, which one person rarely possesses.

**Individual versus group decision-making.**

Groups usually take more time to decide than do individuals. Mutually reinforcing impact of specialists and experts results in better decisions. Research indicates that consensus decisions with five or more participants are superior to individual decision-making, majority vote, and leader decisions.

Negative influences on open group discussion:

a. Pressure to conform.

b. Influence of a dominant personality type in the group.

c. "Status incongruity," which inhibits lower status participants and may cause them to "go along" with the experts even when they think their own ideas are better.

d. Framing effects occur more often in groups.

Groups make more effective non-programmed decisions because the group benefits from pooled talent. Concerning each step of the decision process:

a. Groups do better in **establishing goals and objectives** because of a greater knowledge pool.

b. Individual efforts are required in **identifying causes and developing alternative solutions** to obtain a broad search in functional areas.

c. Groups **evaluate alternative solutions** more effectively because of the group's collective judgment.

d. Groups accept more risk than individuals at the point of **solution selection** and the solution is more likely to be accepted.
e. Implementation and follow-up is usually made by an individual manager, whether or not the decision is made by a group.

Creativity in group decision-making.

An atmosphere fostering group creativity can be created. Creativity is a process by which an individual, group, or team produces novel and useful ideas to solve a problem or capture an opportunity. Use lateral, not linear thinking.

Creative decision makers share some common characteristics such as:

- Perseverance.
- Risk-taking propensity.
- Openness.
- Tolerance for ambiguity.

Techniques for stimulating creativity:

a. **Brainstorming**—implemented via a set of rules:
   
i. State any ideas regardless of how extreme or outlandish.
   
ii. Approach each idea as belonging to the group and build upon the ideas of others.
   
iii. Generate, don't evaluate, ideas.

b. **Delphi technique**—involves soliciting and comparing anonymous judgments on a problem/topic via a set of sequential questionnaires:
   
i. Involves no face-to-face interaction between the judges (removing biasing effects).
   
ii. A questionnaire is sent to participants via mail, completed surveys are returned and responses summarized by analysis.
   
iii. Participants receive a written summary (again by mail), along with a second questionnaire for reassessment.
   
iv. Participants independently evaluate their earlier responses.
   
v. Analysts typically go with tabulated results as the decision after the second or third round.

c. **Nominal group technique**
   
i. A group (7-10 members) sits around a table, but do not speak.
   
ii. Each writes ideas on a pad of paper.
   
iii. After five minutes, each member presents an idea in round robin fashion until all ideas are presented (a recorder writes all ideas on chart before the group). No discussion.
   
iv. Structured discussion occurs; each idea receives attention.
v. After discussion, each member votes (privately) by ranking alternatives. The group decision is the mathematically pooled vote outcome.

**Delphi and NGT differ in several ways:**

i. Member anonymity (D—yes; NGT—no).

ii. Face-to-face interaction (NGT—yes; D—no).

iii. Mode of communication (D—written only; NGT—written and oral).

**Types Of Organizational Decision Making Processes**

1. **Management Science Approach**
2. **Carnegie Model**
3. **Incremental Decision Process Model**
4. **Garbage Can Model**

1. **MANAGEMENT SCIENCE APPROACH**

It is the analog to the rational approach by individual managers. It came into prominence during World War II for military application, e.g. Naval Gunnery. Later it diffused into corporations and business schools. Today many corporations have assigned departments to develop and use these techniques for problem solving. It is very effective where problems are analyzable quantitatively and the variables can be identified and measured, e.g. transportation networks optimizations, scheduling of employees etc.

Weakness is that quantitative data does not convey tacit knowledge as human experience and judgment does and can lead to erroneous results. It is very useful for composite decision approach – where the quantitative results can be given to managers as an input for decision making which would result from discussions on qualitative aspects also.

2. **CARNegie MODEL (Cyert, March & Simon)**

Organization level decisions involves many managers. A final decision choice is based on a coalition among those many managers. A Coalition is an alliance among several managers who agree about organizational goals and problem priorities. Management coalitions are needed because Organisational goals and departmental operative goals are often inconsistent requiring **bargaining** to focus on specific problems and priorities for solving. It is based on the principle of “many heads are better than one”.

Implications of coalition formation are:

· Satisficing : organizations accept a “satisfactory”, rather than a maximum or optimum level solution.
· PROBLEMATIC SEARCH: concern with the immediate environment, search to quickly resolve a problem: speed rather than perfection.

Discussion and bargaining are specially important in the problem identification stage of the decision making. Unless coalition members perceive a problem, no action will be taken. Building agreement through a managerial coalition is a major part of organizational decision making. This is especially true at upper management levels. Organizations suffer when managers are unable to build a coalition around goals and problem priorities.

**CHOICE PROCESSES IN THE CARNEGIE MODEL**
3. INCREMENTAL DECISION PROCESS MODEL

The incremental decision process model tells more about the structured sequence of activities undertaken from the discovery of a problem to its solution. It places less emphasis on the political and social factors of the Carnegie Model. In this decision process, a series of small choices combine to produce the major decision. Organisations move through several decision points and may hit barriers along the way. These barriers may be called decision interrupts. An interrupt may mean an organization has to cycle back through a previous decision and try something new.

INCREMENTAL DECISION PHASES

Identification Phase

Managers become aware of a problem and the need to take a decision. This is called the recognition. This is usually stimulated by a problem or an opportunity. The second step is diagnosis. Here, more information is gathered as needed to define the problem situation.

For solving problems there are:

A solution is shaped to solve the problem defined in the identification phase. This can be done by:

- Search: for alternatives within the organization’s repertoire of solutions.
- Design: If the problem is new and has no precedents, then the solution has to be custom-made in a groping, incremental procedure, building a solution, brick by brick.

Selection Phase: Here, the solution is chosen. The choice is often not a selection of one solution amongst alternatives, but rather a single, tailor made solution. Most decisions do not involve systematic analysis and evaluation of alternatives. Judgement form of selection is used when the final choice falls upon a single decision maker. When the decision makers are a group of people, bargaining occurs. When a decision is formally accepted by the organization, authorization takes place, by someone usually high up in the hierarchy.

The Learning Organisation Decision Process Models

Learning Organisation Decision Processes when Problem Identification and Problem Solution are uncertain

PROBLEM IDENTIFICATION
When Problem Identification is uncertain, Carnegie Model applies. Here Political and Social Process is needed. Build coalition, seek agreement, and resolve conflict about goals and problem priorities.

**PROBLEM SOLUTION**

When Problem Solution is uncertain, Incremental Process Model applied. Incremental trial and error process is needed to solve big problems in little steps. It should be recycled and tried again when blocked. It is characterized by rapid change, and a collegial, non-bureaucratic environment.

4. **GARBAGE CAN MODEL** - Combining the Incremental Process and the Carnegie Models, The Garbage Can Model deals with the pattern of flow of multiple decisions within organizations whereas, the Incremental and the Carnegie Models focus on how a single decision is made. The Garbage Can Model helps the decision maker to think about the whole organization and the frequent decisions being made by managers throughout. The Garbage Can Model was developed to explain the pattern of decision making in organizations that experience extremely high uncertainty, such as the growth and change required in a learning organization. Michael Cohen, James March and Johan Olsen, the originators of the model called the highly uncertain conditions, organized anarchy. Organised anarchies do not rely on the normal vertical hierarchy of authority and bureaucratic decision rules. They are caused by:

(a) **Problematic Preferences** : goals, problems, alternatives and solutions are ill defined. Ambiguity characterizes each step of a decision process.

(b) **Unclear, poorly understood technology** : Cause-and-effect relationships within the organization are difficult to identify. An explicit data base that applies to decisions is not available.

(c) **Turnover** : Organisational 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.

The organized anarchy describes organizations

**Contingency Decision-Making Framework**

The use of a decision-making approach is contingent on the organization setting.

Two characteristics of organizations that determine the use of decision approaches are

(a) **Problem Consensus**

(b) **Technical knowledge about the need to solve the problem**

**PROBLEM CONSENSUS**

It refers to agreement among the managers about the nature of a problem or an opportunity, and about which goals and outcomes to pursue. This variable ranges from complete agreement to complete
disagreement. When managers agree, there is little uncertainty – the problems and goals of the organization are clear and so are the standards of performance. And when managers disagree, organization direction and performance expectations are in dispute, creating a situation of high uncertainty.

(b) TECHNICAL KNOWLEDGE ABOUT SOLUTIONS

This refers to understanding and agreement about how to solve problems and reach organization. When means are well understood, appropriate alternatives can be identified and calculated with some degree of certainty. When the means are poorly understood, potential solutions are ill defined and uncertain. Intuition, judgement, and trial and error become the basis for decisions.

Contingency Framework For Using Decision Models

When problem consensus is certain and solution knowledge is certain the individual decision making approach is rational approach computation, organizational approach is management science.

When problem consensus is uncertain and solution knowledge is certain the Individual decision making approach is bargaining and coalition formation, Organizational approach is Carnegie model.

When problem consensus is certain and solution knowledge is uncertain the individual decision making approach is judgment, trial and error, organizational approach is Incremental decision process model.

When problem consensus is uncertain and solution knowledge is uncertain the Individual decision making approach is bargaining and judgement, inspiration and imitation; Organizational approach is Carnegie model and Incremental decision process model, evolving to garbage can model.

Tools for Decision-Making

The different decision making tools are:

- Flow Charts
- Run Charts
- Pareto Charts
- Fishbone Diagrams
- Scatter Diagrams
- Pie Chart
- Control Chart
- Force Field Analysis
- Affinity Diagram
- Tree Diagram
- Interrelationship Digraph
- Matrix Diagram
- Six Hat Thinking
Pareto Analysis

Pareto analysis is a very simple technique that helps to choose the most effective changes to make.

It uses the Pareto principle – the idea that by doing 20% of work one can generate 80% of the advantage of doing the entire job*. Pareto analysis is a formal technique for finding the changes that will give the biggest benefits. It is useful where many possible courses of action are competing for your attention.

Paired Comparison Analysis

Paired Comparison Analysis helps to work out the importance of a number of options relative to each other. It is particularly useful where there is no objective data to base this on.

This makes it easy to choose the most important problem to solve, or select the solution that will give the greatest advantage. Paired Comparison Analysis helps to set priorities where there are conflicting demands on your resources.

Grid Analysis

Grid Analysis (also known as Decision Matrix Analysis, Pugh Matrix Analysis or MAUT, which stands for Multi-Attribute Utility Theory) is a useful technique to use for making a decision.

It is particularly powerful where there are a number of good alternatives to choose from, and many different factors to take into account. This makes it a great technique to use in almost any important decision where there isn't a clear and obvious preferred option.

PMI

PMI stands for 'Plus/Minus/Interesting'. It is a valuable improvement to the 'weighing pros and cons' technique used for centuries.

Force Field Analysis

Force Field Analysis is a useful technique for looking at all the forces for and against a decision. In effect, it is a specialized method of weighing pros and cons.

Six Thinking Hats
"Six Thinking Hats" is a powerful technique that look at important decisions from a number of different perspectives. It helps to make better decisions by pushing one to move outside habitual ways of thinking. As such, it helps to understand the full complexity of a decision, and spot issues and opportunities which one might otherwise not notice.

Each "Thinking Hat" is a different style of thinking. These are explained below:

- **White Hat:**

  With this thinking hat, focus is on the data available. One has to look at the information at hand, and see what one can learn from it, look for gaps in knowledge, and either try to fill them or take account of them. This is where one analyzes past trends, and try to extrapolate from historical data.

- **Red Hat:**

  Wearing the red hat, one looks at the decision using intuition, gut reaction, and emotion. Also trying to think how other people will react emotionally, and trying to understand the intuitive responses of people who do not fully know one’s reasoning.

- **Black Hat:**

  When using black hat thinking, one looks at things pessimistically, cautiously and defensively. One tries to see why ideas and approaches might not work. This is important because it highlights the weak points in a plan or course of action. It allows one to eliminate them, alter approach, or prepare contingency plans to counter problems that arise.

- **Yellow Hat:**

  The yellow hat helps to think positively. It is the optimistic viewpoint that helps to see all the benefits of the decision and the value in it, and spot the opportunities that arise from it. Yellow Hat thinking helps to keep one going when everything looks gloomy and difficult.

- **Green Hat:**
The Green Hat stands for creativity. This is where one can develop creative solutions to a problem. It is a freewheeling way of thinking, in which there is little criticism of ideas.

- **Blue Hat:**

The Blue Hat stands for process control. This is the hat worn by people chairing meetings. When running into difficulties because ideas are running dry, they may direct activity into Green Hat thinking. When contingency plans are needed, they will ask for Black Hat thinking, and so on.

**Starbursting**

Understanding new ideas by brainstorming questions.

Asking questions like these is a valuable way of understanding the new idea, and of challenging it to ensure that all of the relevant aspects of it have been considered before any work begins on implementing it. To get the most out of this approach, it's important that the questions are asked in a systematic and comprehensive way.

**Stepladder Technique**

The Stepladder Technique is a simple tool that manages how members enter the decision-making group. Developed by Steven Rogelberg, Janet Barnes-Farrell and Charles Lowe in 1992, it encourages all members to contribute on an individual level BEFORE being influenced by anyone else. This results in a wider variety of ideas, it prevents people from "hiding" within the group, and it helps people avoid being "stepped on" or overpowered by stronger, louder group members.

**Decision Tree Analysis**

Decision Trees are useful tools for helping you to choose between several courses of action.

They provide a highly effective structure within which one can explore options, and investigate the possible outcomes of choosing those options. They also help one to form a balanced picture of the risks and rewards associated with each possible course of action. This makes them particularly useful for choosing between different strategies, projects or investment opportunities, particularly when your resources are limited.

**Quantitative Strategic Planning Matrix (QSPM)**

Choosing the best strategic way forward. Organizations spend a lot of time and effort on strategy formulation. Often, there are several different approaches or strategies that the
organization could follow. But how to decide which option is best? Does one rely on intuition, or take a more objective approach?

The Quantitative Strategic Planning Matrix (QSPM) helps to address this question. It gives a systematic approach for evaluating alternate strategies, and helps to decide which strategy is best suited to the organization.

**The Vroom-Yetton-Jago Decision Model**

Deciding How to Decide. How to go about making a decision that can involve as many choices as the decision itself. Sometimes one have to take charge and decide what to do on own. Other times its better to make a decision using group consensus. How does one decides which approach to use?

Making good decisions is one of the main leadership tasks. Part of doing this is determining the most efficient and effective means of reaching the decision.

The Vroom-Yetton-Jago Decision Model provides a useful framework for identifying the best leadership style to adopt for the situation one is in

**A Systematic Approach to Decision Making**

Simple decisions usually need a simple decision-making process. But difficult decisions typically involve issues like these:

- **Uncertainty** - Many facts may not be known.
- **Complexity** - You have to consider many interrelated factors.
- **High-risk consequences** - The impact of the decision may be significant.
- **Alternatives** - Each has its own set of uncertainties and consequences.
- **Interpersonal issues** - It can be difficult to predict how other people will react.

A logical and systematic decision-making process helps to address the critical elements that result in a good decision. By taking an organized approach, one is less likely to miss important factors, and one can build on the approach to make decisions better and better.

There are six steps to making an effective decision:

1. Create a constructive environment.
2. Generate good alternatives.
3. Explore these alternatives.
4. Choose the best alternative.
5. Check your decision.
6. Communicate your decision, and take action.
Organizational Constraints

Organizations impose their own constraints on the decision making process:

1. **Performance Evaluation**: Managers are quite often influenced in their decision-making, keeping at the back of their minds how different decisions will affect their own performance evaluation which their superior will make. E.g., if a college dean believes that if good instruction is given, then no more than about 10% of the students would fail, then each of the instructors would more likely than not, ensure that this happens, so as to avoid poor evaluations for themselves.

2. **Reward Systems**: If the organization rewards innovations and risks taken by managers, then they will tend to take such decisions to enhance their personal rewards – and vice versa.

3. **Formalisation**: Rules and procedures limit and direct a manager’s decision making process.

4. **Time and Cost Deadlines**: Such deadlines limit the decision making process.

5. **Historical Precedents**: Are very powerful moulders of decision making, particularly in large bureaucratic organizations

Cultural Differences in Decision Making

Different cultures have different value systems. Components of the decision making process like time deadlines, role of the group, role of the senior, acceptance coefficients of situations, rational approach vs. intuitive approach etc., have a strong role in decision making, across cultures. Managers working in Multinational organizations need to be sensitized to this aspect.

Questions

1. What are the different types of decisions? In this connection describe the managerial decision making in the organization.

2. Describe the decision making process in the organization. What are behavioral Influences on Decision-Making. In this connection describe the different Decision Making Styles

4. What are the different types Of Organizational Decision-Making Processes-Describe with examples. In this connection describe the Contingency Framework For Using Decision Models.

5. What is a Systematic Approach to Decision-Making. In this connection describe the use of the different Tools for Decision-Making.

6. Write short notes on (a) the Organizational Constraints on Decision making (b) Cultural Differences in Decision-Making.