

# Modeling Decision Process & Decision Support System

## 1. Modeling Decision Process

Before knowing about modeling decision process, we should know about its basic.

**Decision:** The thought process of selecting a logical choice from the available options, is called decision. When trying to make a good decision, a person must weight the positives and negatives of each option, and consider all the alternatives. For effective decision making, a person must be able to forecast the outcome of each option as well, and based on all these items, determine which option is the best for that particular situation.

### 1.1 Decision Making

1. Decision making is a crucial part of good business. The question then is that 'how is a good decision made?'
2. One part of the answer is good information, and experience in interpreting information. Consultation *i.e.*, seeking the views and expertise of other people also helps, as does the ability to admit one was wrong and change one's mind.
3. There are also aids to decision making, various techniques which help to make information clearer and better analysed, and to add numerical and objective precision to decision making (where appropriate) to reduce the amount of subjectivity.
4. The process of examining your possibilities options, comparing them, and choosing a course of action.

## 1.2 Decision Making in Organizations

The process of choosing a course of action for dealing with a problem or opportunity.

Decision making levels:

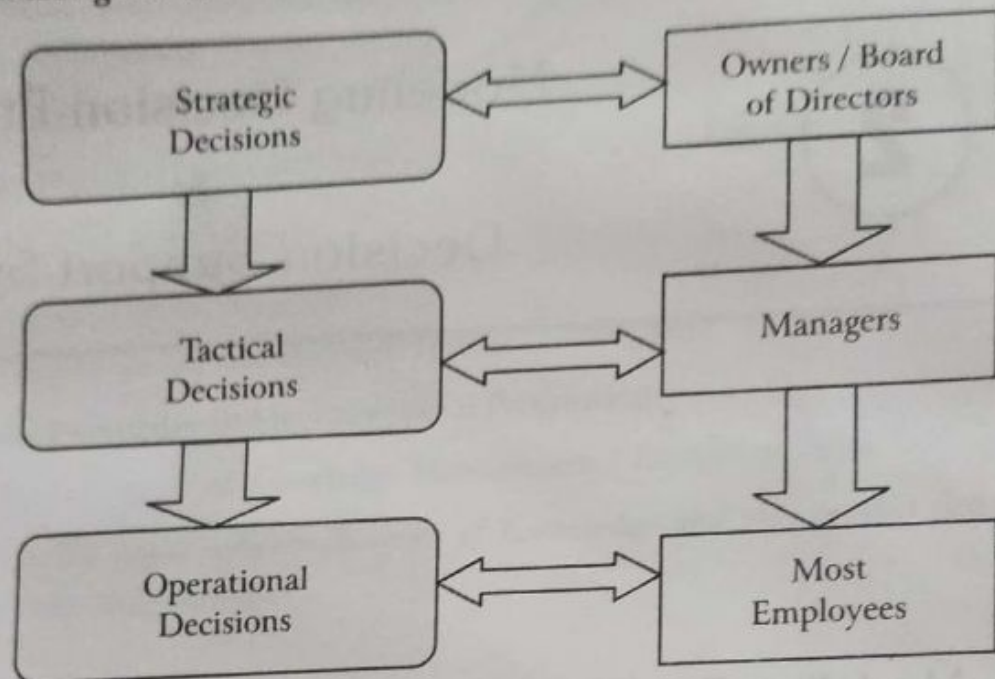


Fig. 1: Decision making levels

### 1.2.1 Steps in Systematic Decision making

1. Recognize and define the problem or opportunity.
2. Identify and analyze alternative courses of action, and estimate their effects on the problem or opportunity.
3. Choose a preferred course of action.
4. Implement the preferred course of action.
5. Evaluate the results and follow up as necessary.

### 1.2.2 The Significance of Decision making

1. Decision making is the one truly distinctive characteristic of managers.
2. Decisions made by top managers commit the total organization toward particular courses of action.
3. Decisions made by lower levels of management implement the strategic decisions of top managers in the operating areas of the organization.
4. Decisions invariably involve organizational change and the commitment of scarce resources.



## 2. The Conventional Decision Support System (DSS) Making Process

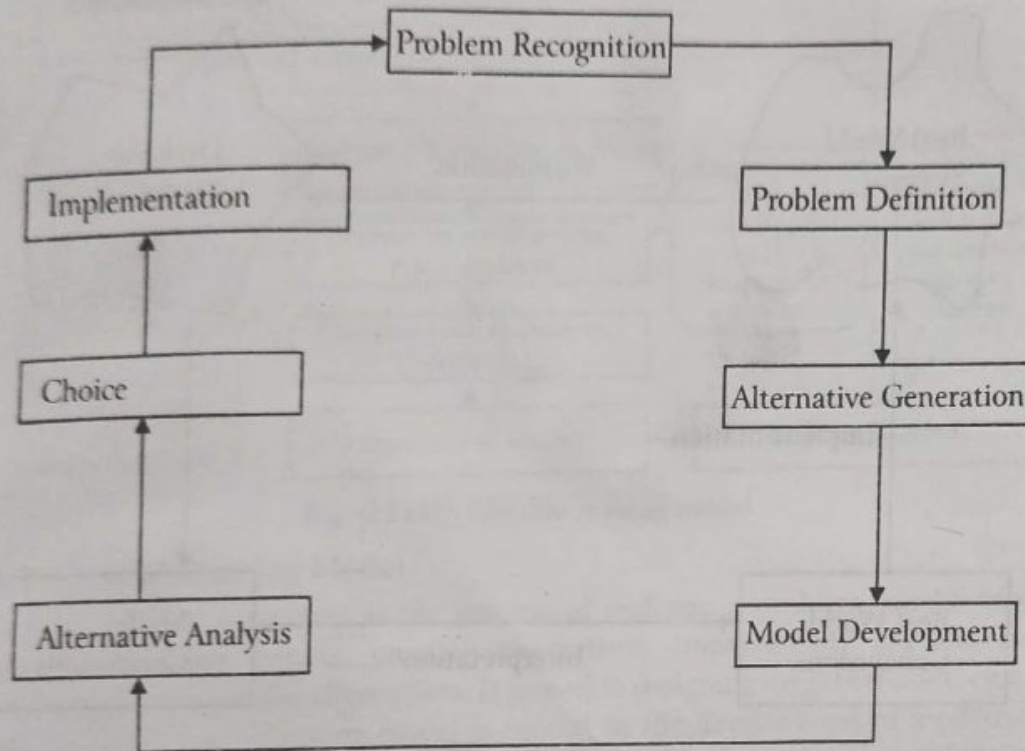


Fig. 2: Conventional DSS making process

### 2.1 Decision Modeling

Decision modeling refers to the use of mathematical or scientific methods to determine an allocation of scarce resources which improves or optimizes the performance of a system. The terms operations research and management science are also used to refer to decision modeling.

#### 2.1.1 Advantages and Disadvantages of Modeling

##### 1. Advantages

- (i) Less expensive than custom approaches or real systems.
- (ii) Faster to construct than real systems
- (iii) Less risky than real systems
- (iv) Provides learning experience (trial and error)
- (v) Future projections are possible
- (vi) Can test assumptions

##### 2. Disadvantages

- (i) Assumptions about reality may be incorrect
- (ii) Accuracy of predications often unreliable
- (iii) Requires abstract thinking