

# INFORMATION SYSTEMS MANAGEMENT



SIT 222

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# Information & Decision Making

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# Approaches To Management

- A. Top-down approach
  - B. Bottom-up approach
  - C. Integrative approach
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# Top Down Approach

- In Top down approach management takes the initiative in formulating major objectives, policies and plans in a comprehensive manner and communicates them down the line to middle and supervisory management levels for translating them into performance results.
- Managers other than those at top levels have little role in planning, they have to only concentrate on implementation and day-to-day control.

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# Bottom-up approach

- A bottom-up approach starts with the lowest-level management of the hierarchy and proceeds progressively through higher levels of the management.
  - Here we identify the life stream systems.
  - Life stream systems are those systems, which are essential for the day-to-day business activities.
  - After identifying the basic transactions, information file requirements and information processing programs we develop information system for each life stream system.
  - Then we move towards the integration of data kept in different data files of each information system.
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# Bottom-up approach

- The next step under bottom up approach may be the addition of decision model and various planning models for supporting the planning activities involved in management control.
  - Further, these models are integrated to evolve model base.
  - They are useful for analysing different factors, to understand difficult situations and to formulate alternative strategies and options to deal them.
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# Integrative approach

- Under Integrative approach we can overcome the limitations of the above two approaches when used objectively.
  - Integrative approach permits managers at all levels to influence the design of an IS.
  - Top management identifies the structure and design of an IS suitable to the concern.
  - This design is further presented to lower level managers for their views and modifications.
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# Integrative approach

- The managers at the lower level are permitted to suggest changes, additions, or deletions and return the design with their suggestions to the top level for approval.
  - The revised design is drawn and evaluated by the top level and sent down again in a modified form for further consideration if required.
  - This evaluation, modification and approval process continues until a final design is achieved, that is suitable for all levels.
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# ROLE OF MANAGEMENT

The traditional functions of managers include:

- Planning
  - Organizing
  - Coordinating
  - Controlling
  - Forecasting
  - **Decision making**
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- It is important to note that an IS is not just for the use of 'managers'.
  - However anyone who shares the above roles can make use of an IS.
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# Stages of Decision Making

- Making decisions consist of several different activities.
  
  - The four stages in decision-making are:
    - ***Intelligence*** – Consist of identifying and understanding the problems occurring in the organization by answering the following questions:
      - Why this particular problem,
      - Where and what are the effects?
      - MIS systems that achieve a wide variety of detailed information can help identify problems especially through the system's report.
    - ***Design Stage*** – Here the individual designs possible solutions to the problems
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# Stages of Decision Making

- The four stages in decision-making are:
  - ***Choice Stage*** – Consist of choosing among solution alternatives.
    - A decision-maker may use a complex decisions system to develop more extensive data on a variety of alternatives and complex models or data analysis tools to account for all the cost, consequences and opportunities.
  - ***Implementation Stage*** – Here the decision-maker choose an alternative and puts it into effect.
    - Managers can use a reporting system that delivers routine reports on the progress of a specific solution.

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# Stages of Decision Making

- It is important to note that, the stages of decision-making do not necessarily follow a linear path.
  - At any point in the decision-making process it might be necessary to loop back to a previous stage.
  - For instance, one can often come up with several designs but may not be certain about whether a design meets the requirements for the particular problem.
  - In such a situation, the decision-maker requires additional intelligence work and may go back to that stage to gather additional data.
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# Stages of Decision Making

- Assignment:
  - Find and read about existing Decision Making Models..

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# Decision making models

- A decision-making model is a standard process or structure that provides professionals with guidelines they can follow to help them make the best choice and, at the same time, make the decision-making process more manageable.
  - 4 decision making models:
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# 1. Rational model

- Using a sequence of logical steps to help make a decision, the rational model leverages data, logic, and analysis to identify the problem, brainstorm possible solutions, and select the most viable option after careful evaluation.
- Steps:
  - Identify the Problem: Think about the central problem that you plan to address.
  - Determine the Decision Criteria: Define what information is relevant in making decisions.
  - Weigh the Decision Criteria: Decide the importance of decision criteria based on your priorities regarding the final decision.
  - List Potential Options: Now you can list all of the possible options to solve the problem and arrange them by likelihood of success, feasibility, etc.
  - Choose the Best Option: Take your time evaluating the options, considering the potential outcome for each. Once you've chosen the best one, commit to implementing it.

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# Cont...

## ■ Advantages

- The rational model is very effective when working with a team and there is time for multiple meetings and brainstorming sessions.
- You'll be able to come up with various solutions and the pros and cons of each. Since the rational model requires careful evaluation, there is less risk and uncertainty with the final decision outcome.

## ■ Disadvantages

- To start, the rational decision-making model is often time-consuming and costly, so it's usually not used in more minor decisions but rather for more significant decisions that could have considerable impacts.
- Another thing to remember is that if you lack any essential information, the rational model might not be that useful.

## ■ When to Use the Rational Model?

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## 2. Intuitive Model

- There are times when you have to go with your gut instincts. It's often less structured than the other decision-making models but just as helpful depending on the situation.
  - The intuitive model relies on past training, experience, and knowledge to arrive at a final decision without conscious reasoning. Although it might seem like the intuitive model is a gamble, the decision-maker usually makes their final decision by scanning the situation for patterns based on what has worked in the past, sometimes without even realizing it.
  - **Advantages**
    - The intuitive model is a great option when making a decision with limited time or resources, as long as the decision-makers are familiar with and experienced in the topic.
  - **Disadvantages**
    - If your team is unfamiliar with the task or has little experience, they might not be able to come up with a solution intuitively. It would be best to collaborate with more experienced coworkers in this situation.
  - **When to Use the Intuitive Model?**
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## 3. Bounded Rationality Model

- Sometimes, you have to go with a "good enough" solution to get the job done. We are often "bounded" by time constraints, limited available information, and cognitive limitations as humans.
- This is the idea behind the bounded rationality model: doing the best with what you have available rather than overanalyzing every alternative solution.

### **Advantages**

- It allows teams to make quick decisions without putting much time or thought into it. But, of course, you will need to be open to shifting gears as things change and are able to think on your toes.

### **Disadvantages**

- Since there is less time and strategy dedicated to this decision-making model, there is the risk that things won't work out, wasting valuable resources.

### **When to Use the Bounded Rationality Model?**

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## 4. Creative Model

- The creative decision-making model is usually applied when the decision-maker has to develop original ideas to create an innovative solution to a problem.
- Unlike the other models, the creative decision-making model doesn't allow team members to rely on their experience since they must find a new, unique solution to their current problem.
- **Advantages**
  - is that even if a team is inexperienced in their tasks, they can still apply this model when making a decision. The creative model also encourages collaboration and can strengthen team building.
- **Disadvantages**
  - is that it consumes a lot of time and resources and requires extensive brainstorming and meetings.
  - there is no past proof that the final decision will work until you try it.
  - success depends on the decision maker's creativity and availability to conceive fresh ideas.

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■ **When to Use the Creative Model?**-*think of digital marketing*

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