



management

DECISION MAKING

Decision Making

The process by which
managers identify problems
and try to resolve them

NATURE OF MANAGERIAL DECISION MAKING

Types of problems faced:

- **Crisis problems**

Serious: require immediate action

- **Non-crisis problems**

Require resolution but not both immediate and important

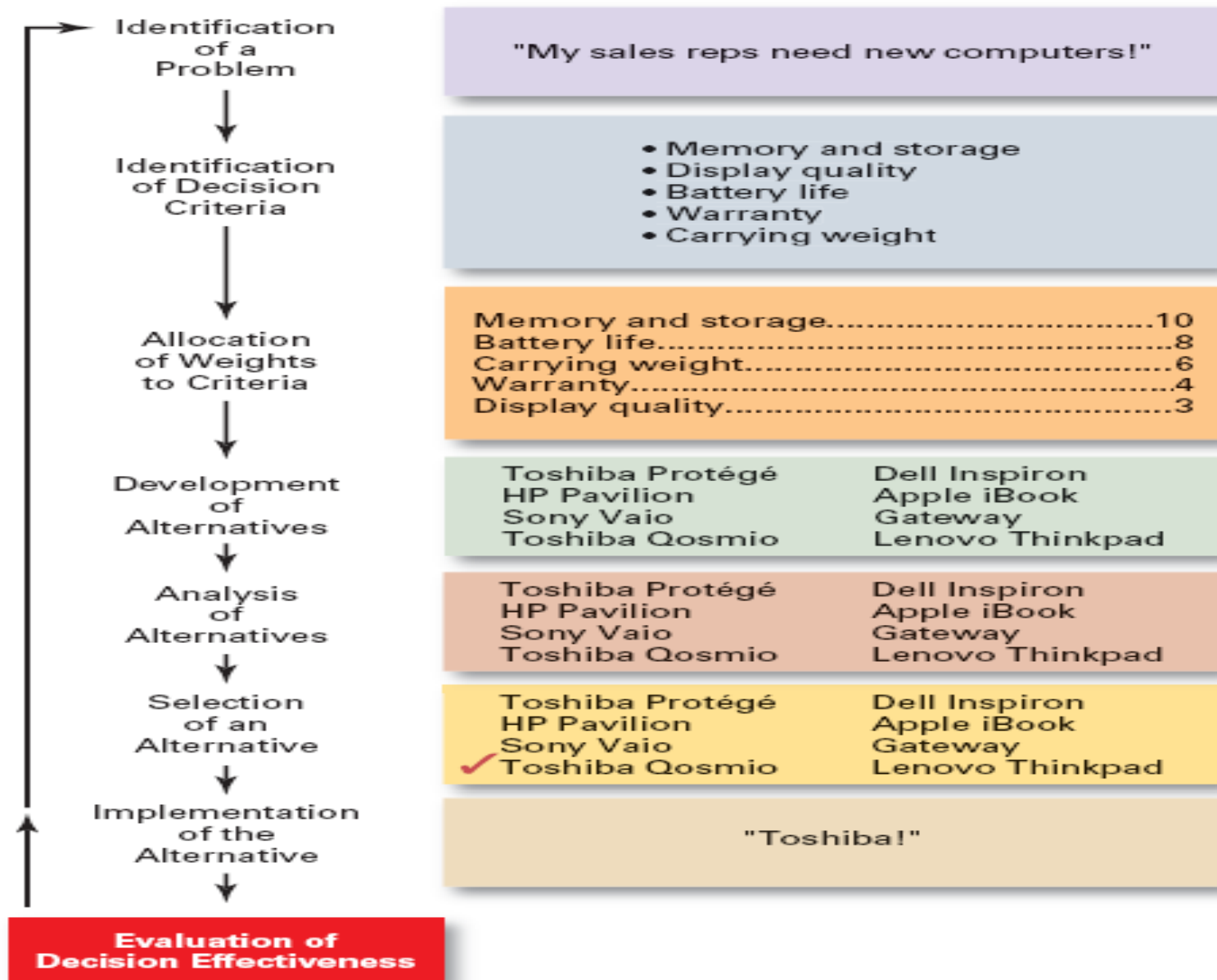
- **Opportunity problems**

Opportunity for organisational gain if appropriate action taken

Decision Making

- Decision making
 - Making a choice from two or more alternatives.
- The Decision-Making Process
 - Identifying a problem and decision criteria and allocating weights to the criteria.
 - Developing, analyzing, and selecting an alternative that can resolve the problem.
 - Implementing the selected alternative.
 - Evaluating the decision's effectiveness.

The Decision-Making Process



Step 1: Identifying the Problem

- Problem
 - A discrepancy between an existing and desired state of affairs.
- Characteristics of Problems
 - A problem becomes a problem when a manager becomes aware of it.
 - There is pressure to solve the problem.
 - The manager must have the authority, information, or resources needed to solve the problem.

Step 2: Identifying Decision Criteria

- Decision criteria are factors that are important (relevant) to resolving the problem.
 - Costs that will be incurred (investments required)
 - Risks likely to be encountered (chance of failure)
 - Outcomes that are desired (growth of the firm)

Step 3: Allocating Weights to the Criteria

- Decision criteria are not of equal importance:
Assigning a weight to each item places the items in the correct priority order of their importance in the decision making process.

Criteria and Weights for Computer Replacement Decision

Criterion	Weight
Memory and Storage	10
Battery life	8
Carrying Weight	6
Warranty	4
Display Quality	3

Step 4: Developing Alternatives

- Identifying viable alternatives
 - Alternatives are listed (without evaluation) that can resolve the problem.

Step 5: Analyzing Alternatives

- Appraising each alternative's strengths and weaknesses
 - An alternative's appraisal is based on its ability to resolve the issues identified in steps 2 and 3.

Assessed Values of Laptop Computers Using
Decision Criteria

	Memory and Storage	Battery Life	Carrying Weight	Warranty	Display Quality
Toshiba Protégé S100	10	3	10	8	5
Dell Inspiron 700m	8	7	7	8	7
HP Pavilion zd8000	8	5	7	10	10
Apple iBook	8	7	7	8	7
Sony Vaio VGN-FS790	7	8	7	8	7
Gateway NX850X	8	3	6	10	8
Toshiba QosmioG15-AV501	10	7	8	6	7
Lenovo Thinkpad R52	4	10	4	8	10

Step 6: Selecting an Alternative

Choosing the best alternative

- The alternative with the highest total weight is chosen.

Step 7: Implementing the Alternative

Putting the chosen alternative into action.

Conveying the decision to and gaining commitment from those who will carry out the decision.

Evaluation of Laptop Alternatives Against
Weighted Criteria

	Memory and Storage	Battery Life	Carrying Weight	Warranty	Display Quality	Total
Toshiba Protégé S100	100	24	60	32	15	231
Dell Inspiron 700m	80	56	42	32	21	231
HP Pavilion zd8000	80	40	42	40	30	232
Apple iBook	80	56	42	32	21	231
Sony Vaio VGN-FS790	70	64	42	32	21	229
Gateway NX850X	80	24	36	40	24	204
Toshiba QosmioG15-AV501	100	56	48	24	21	249
Lenovo Thinkpad R52	40	80	24	32	30	206

Step 8: Evaluating the Decision's Effectiveness

- The soundness of the decision is judged by its outcomes.
 - How effectively was the problem resolved by outcomes resulting from the chosen alternatives?
 - If the problem was not resolved, what went wrong?

Types of Decisions

- Structured Problems
 - Involve goals that clear.
 - Are familiar (have occurred before).
 - Are easily and completely defined—information about the problem is available and complete.
- Programmed Decisions
 - **A decision that is a fairly structured decision or recurs with some frequency or both.**
 - Example: Starting your car in the morning.
 - A repetitive decision that can be handled by a routine approach.

- **Unstructured Problems**
 - Problems that are new or unusual and for which information is ambiguous or incomplete.
 - Problems that will require custom-made solutions.
- **Non programmed Decisions**
 - Decisions that are unique and nonrecurring.
 - Decisions that generate unique responses.
 - Intuition and experience are the major factors in nonprogrammed decision.
 - Example: Choosing a vacation destination.

Decision-Making Conditions

- Decision Making Under Certainty
- Decision Making Under Risk
- Decision Making Under Uncertainty



Decision Making Under Certainty



- A state of certainty exists when a decision maker knows, with reasonable certainty, what the alternatives are and what conditions are associated with each alternative.
- Very few organizational decisions, however, are made under these conditions.
- The complex and turbulent environment in which businesses exist rarely allows for such decisions.

Decision Making Under Risk



- A state of risk exists when a decision maker makes decisions under a condition in which the availability of each alternative and its potential payoffs and costs are all associated with probability estimate.
- Decisions such as these are based on past experiences, relevant information, the advice of others and one's own judgment.
- Decision is 'calculated' on the basis of which alternative has the highest probability of working effectively. [union negotiations, Porsche's SUV focus vs high-performance sports cars]

Expected Value for Revenues each outlet

Event	Expected Revenues	×	Probability	=	Expected Value of Each Alternative
Large Store	850,000		0.3	=	255,000
Medium Store	725,000		0.5	=	362,500
Small Store	350,000		0.2	=	<u>70,000</u>

Decision Making Under Uncertainty

- A state of uncertainty exists when a decision maker does not know all of the alternatives, the risks associated with each, or the consequences each alternative is likely to have.
- Most of the major decision making in today's organizations is done under these conditions.
- To make effective decisions under these conditions, managers must secure as much relevant information as possible and approach the situation from a logical and rational view.
- Intuition, judgment and experience always play major roles in the decision-making process under these conditions.



Group and Team Decision Making in Organizations

- Forms of Group Decision Making

Interacting groups or teams

an existing are the most common form of decision-making groups which consists of group or newly formed team interacting and then making a decision.

Delphi groups

are sometimes used for developing a consensus of expert opinion from a panel of experts who individually contribute through a moderator.

Nominal groups

are a structured technique designed to generate creative and innovative ideas through the individual contributions of alternatives that are winnowed down through a series of rank-ordering of the alternatives to reach a decision.

- *The process prevents the domination of discussion by a single person, encourages the more passive group members to participate, and results in a set of prioritized solutions or recommendations*

Delphi Decision Making Process

- The Delphi method was originally developed in the early 1950s at the RAND Corporation by Olaf Helmer and Norman Dalkey
- In Delphi decision groups, a series of questionnaires, surveys, etc. are sent to selected respondents (the Delphi group) through a facilitator who oversees responses of their panel of experts. The **group does not meet face-to-face**. All **communication is normally in writing** (letters or email). **Members of the groups are selected because they are experts** or they have relevant information.
- The responses are collected and analyzed to determine conflicting viewpoints on each point. The process continues in order to work towards synthesis and building consensus.

The process works as follows (Steps)

- 1) Members are selected for the Delphi panel due to their expertise.
- 2) They are kept separated and answer through an **open-ended questionnaires**, surveys, etc. in order to solicit specific information about a subject or content area. Keeping them separated avoids the negative effects of face-to-face discussions and avoids problems associated with group dynamics.
- 3) Members are asked to share their assessment and explanation of a problem or predict a future state of affairs.
- 4) The facilitator (panel director) controls the interactions among the participants by processing the information and filtering out irrelevant content.
- 5) Replies are gathered, summarized, and then fed back to all the group members.
- 6) Members then make another decision based upon the new information.
- 7) The process is repeated until the responses converge satisfactory, that is, it yields consensus.

Nominal Group Technique

- A possible alternative to brain storming is NGT. This technique was originally developed by **Delbecq and VandeVen**

The steps to follow in NGT are:

- 1) Divide the people present into small groups of 5 or 6 members, preferably **seated around a table**.
- 2) State an open-ended question ("What are some ways we could encourage participants to car pool?").
- 3) Have each Person spend several minutes in silence individually **brainstorming** all the possible ideas and jot these ideas down.
- 4) Have the groups, collect the ideas by sharing them round robin fashion (one response per person each time), while all are recorded in key term, on a flipchart. No criticism is allowed, but clarification in response to questions is encouraged.
- 5) Have each person evaluate the ideas and individually and anonymously vote for the best ones (for example, the, best idea gets Points, next best 4 Points, etc).
- 6) Share votes within the group and tabulate. A group report is prepared, showing the ideas receiving the most points.
- 7) Allow time for brief group presentations on their solutions.

Advantages and Disadvantages of Group and Team Decision Making

Advantages	Disadvantages
<ol style="list-style-type: none">1. More information and knowledge are available.2. More alternatives are likely to be generated.3. More acceptance of the final decision is likely.4. Enhanced communication of the decision may result.5. Better decisions generally emerge.	<ol style="list-style-type: none">1. The process takes longer than individual decision making, so it is costlier.2. Compromise decisions resulting from indecisiveness may emerge.3. One person may dominate the group.4. Groupthink may occur.