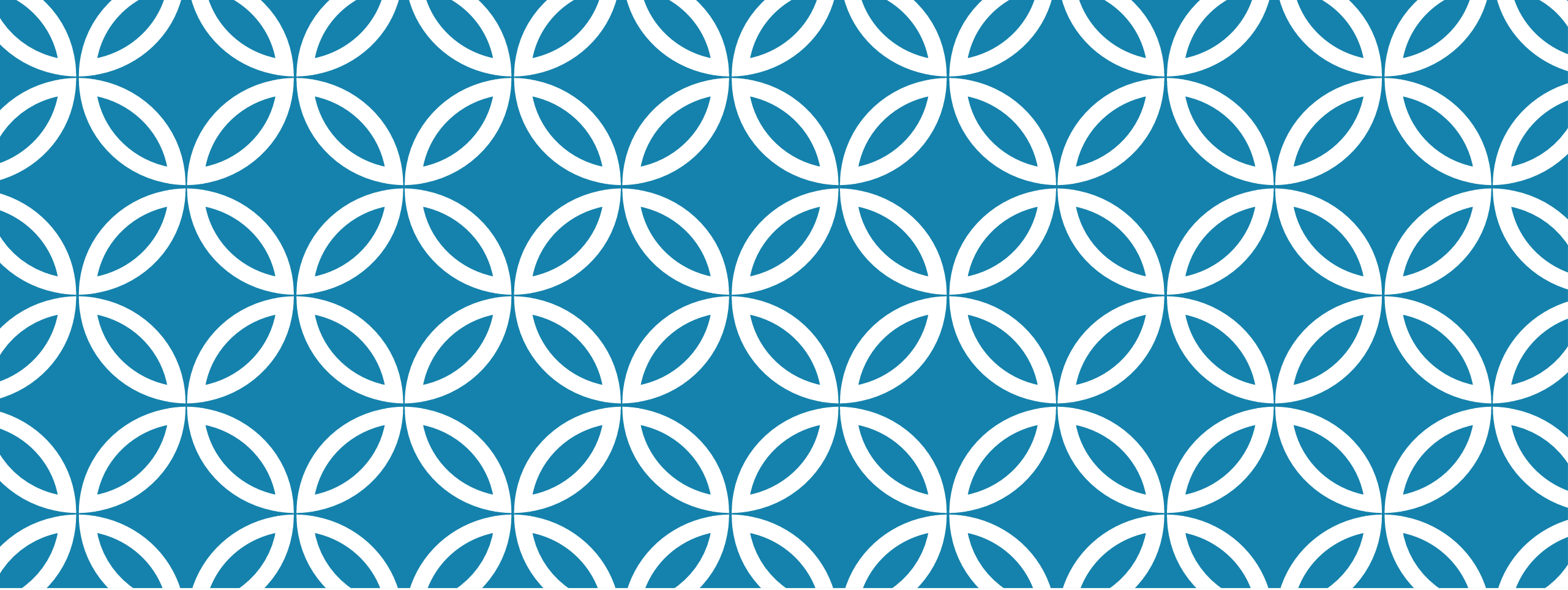


SUPERVISORY SKILLS | EDT06203

Decision Making Process To Facilitate Provision Of Engineering Services/Operations

1. Definition Of Decision Making,
2. The Characteristics Of Decision Making;
3. The Approaches And Techniques Of Decision Making;
4. Factors Affecting Decision Making;
5. Decision Making Tools;
6. Selecting/Identifying Solutions;
7. Time Scale;
8. Information Gathering Process

UNIT- 2

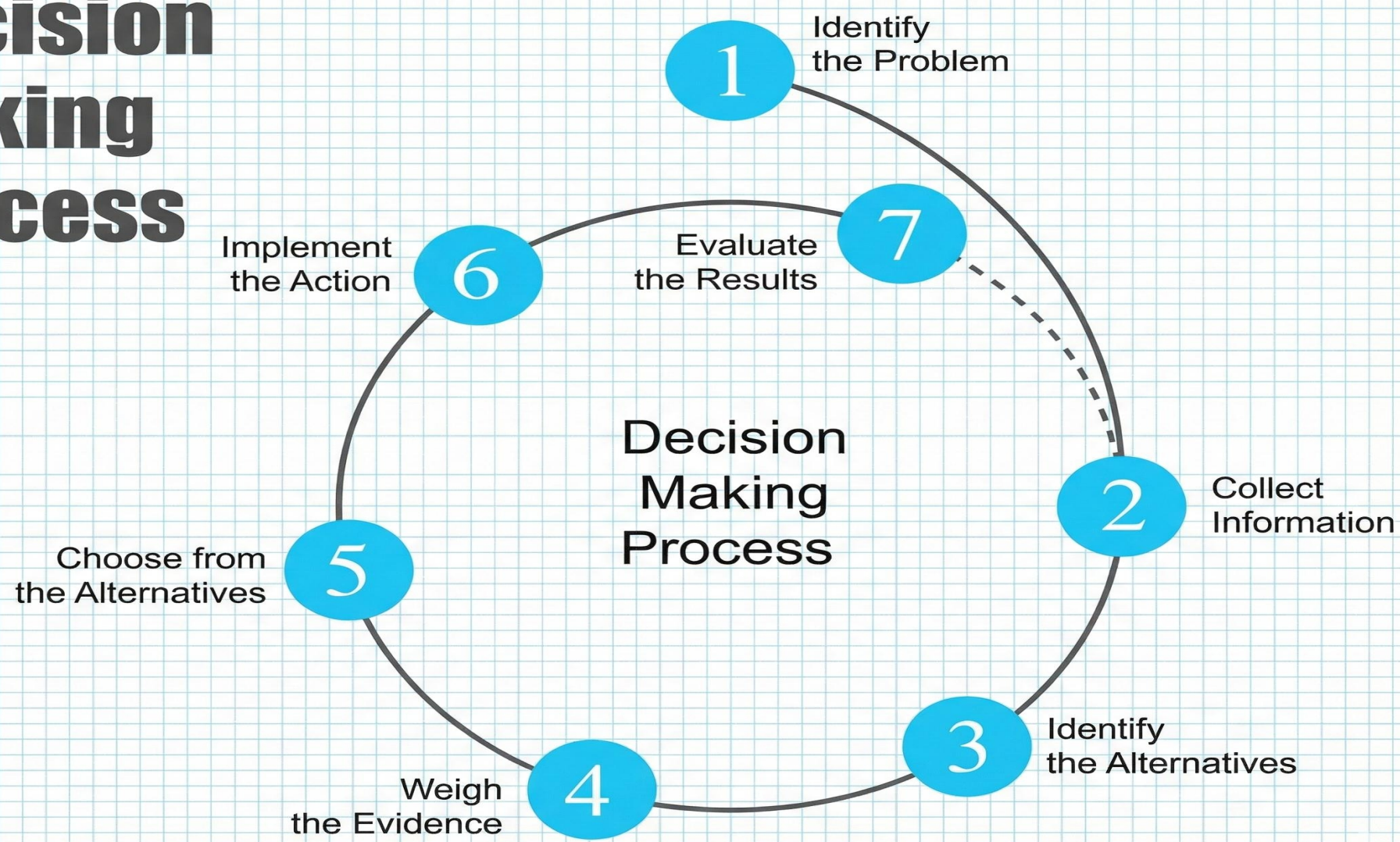
DECISION MAKING

Decision making in engineering services and operations is a structured process used to choose the best course of action from available alternatives in order to achieve efficiency, safety, quality, and reliability. It involves identifying problems, collecting and analyzing relevant information, evaluating possible solutions, and selecting the most appropriate option within given constraints such as time, cost, and resources.

DECISION MAKING



Decision Making Process



THE CHARACTERISTICS OF DECISION MAKING;

Characteristics of decision making refer to the **important features or qualities that describe how the decision-making process works**. They explain the nature of decision making, such as being goal-oriented, rational, continuous, and involving choice among alternatives.

1. 🎯 GOAL-ORIENTED PROCESS

Decision making always starts with a **goal or purpose**. Every decision is made to achieve something, such as solving a problem, improving performance, or reaching a target. Without a goal, decision making has no direction.

✔️ Every decision is linked to achieving results or solving a problem.

✔️ It helps individuals or organizations to focus their efforts on what is important.

✔️ Goals act as a guiding force in selecting the best alternative.

✔️ It helps in planning and organizing actions effectively.

2. 🔄 CONTINUOUS PROCESS

Decision making is not a single action. It happens again and again. Decision making is a **continuous process**, meaning it happens repeatedly and regularly as part of daily work.

✔️ Supervisors make decisions every day, not occasionally.

✔️ It is linked with routine work activities like assigning tasks, checking progress, and solving issues.

✔️ One decision often leads to another decision, creating a chain of actions.

3. 🧠 BASED ON RATIONAL THINKING

Supervisory decision making is based on rational thinking, which means decisions are made using logic, facts, and systematic analysis instead of emotions or personal bias.

✔️ Supervisors must analyze facts and data before taking any decision.

✔️ Decisions are made using a step-by-step logical process, not randomly.

✔️ Helps in choosing the best alternative from available options.

✔️ Reduces chances of mistakes and poor judgments.

✔️ Ensures decisions are fair and unbiased to all workers.

✔️ Past experience and work records are used for better

4. 🔀 SELECTION AMONG ALTERNATIVES

A supervisor often has to choose between different options, such as:

Which worker should do a task

Which method should be used

How to solve a production problem

Decision making always involves selecting the best alternative.

🧩 PROBLEM-SOLVING

In supervisory management, decision making has a problem-solving nature, meaning it is used to identify, analyze, and remove problems in the workplace to ensure smooth functioning.

✔️ Supervisors use decision making to identify workplace problems clearly.

✔️ Helps in finding the root cause of issues, not just symptoms.

✔️ Supports selecting the best solution among alternatives.

✔️ Ensures quick action to avoid delays in production or services.

✔️ Reduces conflicts between workers by applying fair solutions.

6. ⏳ FUTURE-ORIENTED PROCESS

In supervisory management, decision making is future-oriented, meaning supervisors take decisions by thinking about the future impact and results of those decisions.

✔️ Supervisors consider the future consequences before taking any action.

✔️ Helps in planning work to achieve long-term productivity and efficiency.

✔️ Reduces future problems by making preventive decisions today.

✔️ Supports better work scheduling and deadline management.

✔️ Ensures proper use of resources in the future (labour, machines, time).

✔️ Helps in avoiding future risks and failures in production or service.

7. 🌍 DYNAMIC IN NATURE

Supervisory decision making is dynamic in nature, meaning it is not fixed. It changes according to the situation in the workplace and must be adjusted whenever conditions change.

Supervisory cannot follow the same decision in every situation because workplace conditions keep changing.

✔️ Decisions must be flexible and adjustable to suit new circumstances.

✔️ It helps in handling unexpected problems

8. ⚖️ INVOLVES RISK AND UNCERTAINTY

In supervisory management, decision making always involves risk and uncertainty, because the final outcome of a decision cannot be fully predicted.

✔️ Every decision may lead to positive or negative results, so risk is always present.

✔️ Supervisors cannot be 100% sure about future outcomes of their decisions.

✔️ Decisions may affect production, quality, cost, and employee performance.

✔️ Wrong decisions can lead to loss of time, money, and resources.

✔️ There is always uncertainty due to changing workplace conditions.

✔️ Employee response to decisions may be unpredictable.

9. 👥 INVOLVES HUMAN RELATIONS

In supervisory management, decision making involves human relations, because supervisors work directly with employees and their decisions affect people’s feelings, behavior, and performance.

✔️ Supervisory decisions directly affect employees’ work life and satisfaction.

✔️ Good decision making helps maintain positive relationships between supervisor and workers.

✔️ Supervisors must consider employee feelings, attitudes, and morale.

✔️ Decisions should balance discipline and motivation in the workplace.

✔️ Improves team cooperation and trust among workers.

✔️ Helps in reducing conflicts and misunderstandings at work.

10. 📊 BASED ON INFORMATION AND COMMUNICATION

In supervisory management, decision making is strongly based on accurate information and effective communication, because supervisors rely on facts and proper exchange of information to take correct decisions.

✔️ Supervisors depend on reliable and up-to-date information before making decisions.

✔️ Information is collected from workers, reports, machines, and workplace observations.

✔️ Better information leads to better and more accurate decisions.

✔️ Helps reduce errors and wrong judgments in the workplace.

✔️ Communication is needed to clearly explain decisions to workers.

✔️ Ensures that instructions are properly understood and followed.

APPROACHES

Approaches to decision making refer to the **different methods or ways used to make a decision** in order to choose the best alternative among available options.

APPROACHES TO DECISION MAKING

- **Creative Approach**

- The **Creative Approach** to decision making is a method in which decisions are made by using **new ideas, imagination, and innovative thinking** to find unique solutions to problems.
- Example: Designing a new product or process from scratch.

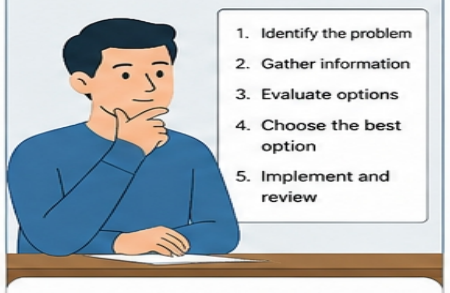
APPROACHES TO DECISION MAKING

Approaches to Decision Making

Approaches to decision making refer to the different methods or ways used to make a decision.

Different Approaches

RATIONAL APPROACH



A logical and systematic process that involves gathering information, evaluating alternatives, and choosing the best option.

INTUITIVE APPROACH



Relies on feelings, instincts and past experiences rather than detailed analysis.

ANALYTICAL APPROACH



Uses data, facts and logical reasoning to analyze the situation before making a decision.

COLLABORATIVE APPROACH



Involves team input and discussion to reach a decision that considers different perspectives.

EXPERIENTIAL APPROACH



Based on learning from past experiences and applying that knowledge to current situations.

Each approach has its strengths and is chosen based on the situation, time, available information and desired outcome.

RATIONAL APPROACH

Decisions are made logically and systematically. Involves collecting information and analyzing alternatives. Focuses on choosing the best solution.

Steps:

Identify the problem

Gather information

Evaluate alternatives

Choose the best option

Implement and review

Example:
A manager compares prices and quality before buying equipment.

2. INTUITIVE APPROACH

Decisions are based on feelings, instincts, and experience.

Used when quick decisions are needed.

Example:
A teacher changes the teaching method after sensing students are confused.

3. CREATIVE APPROACH

Involves new and innovative ideas.

Encourages thinking differently to solve problems.

Example:
A company introduces a new marketing strategy to attract customers.

4. PARTICIPATIVE APPROACH

Employees or team members take part in decision making.

Encourages teamwork and better communication.

Example:
A supervisor asks workers for suggestions before making changes.

5. BEHAVIORAL APPROACH

Focuses on human behavior, emotions, and relationships.

Recognizes that people may not always act rationally.

Example:
A manager considers employee feelings before assigning work.

TECHNIQUES OF DECISION MAKING:

Cost–Benefit Analysis

SWOT Analysis

Decision Matrix (Weighted Scoring)

Brainstorming

Pareto Analysis (80/20 Rule)

Simulation / Modeling

Decision Tree Analysis

TECHNIQUES OF DECISION MAKING:

Techniques of decision making are specific tools or methods used to analyze situations, evaluate alternatives and choose the best course of action.

1. BRAINSTORMING



A group technique that encourages free flow of ideas to find many possible solutions.

- Encourages creativity
- No criticism of ideas
- More ideas, better solutions

Example: Team suggests ideas for a new product.

2. NOMINAL GROUP TECHNIQUE



Structured method where individuals think and write ideas, then discuss and rank them.

- Reduces domination by individuals
- Ensures equal participation
- Produces clear priorities

Example: Choosing the best plan from options.

3. DELPHI TECHNIQUE

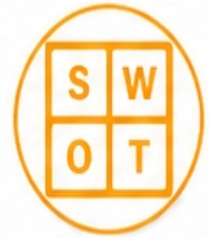


Experts answer questions in multiple rounds anonymously to reach a consensus.

- Useful for complex issues
- Reduces bias
- Builds consensus

Example: Experts predict future market trends.

4. SWOT ANALYSIS



Analyzes Strengths, Weaknesses, Opportunities and Threats before deciding.

- Internal and external analysis
- Helps in strategic planning
- Improves decision quality

Example: Planning a new business strategy.

5. COST–BENEFIT ANALYSIS

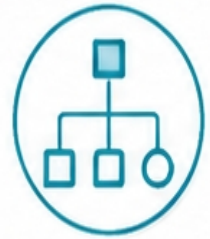


Compares the costs and benefits of each alternative before decision making.

- Quantifies costs and benefits
- Helps in rational decisions
- Useful for resource allocation

Example: Deciding whether to invest in new equipment

6. DECISION TREE ANALYSIS



Uses a tree-like diagram to evaluate alternatives and possible outcomes.

- Clear visualization
- Considers risk and uncertainty
- Helps in choosing best option

Example: Choosing the best investment option.

TECHNIQUES OF DECISION MAKING:

1Cost–Benefit Analysis

Cost–Benefit Analysis is a technique used to compare the total costs and benefits of different alternatives to select the most economical option.

2. SWOT Analysis

SWOT Analysis is a decision-making technique that evaluates Strengths, Weaknesses, Opportunities, and Threats to support strategic planning.

3. Decision Matrix (Weighted Scoring)

A Decision Matrix is a technique that assigns weights and scores to different alternatives based on specific criteria to make an objective comparison.

4. Brainstorming

Brainstorming is a group creativity technique used to generate a large number of ideas or solutions for a problem.

5. Pareto Analysis (80/20 Rule)

Pareto Analysis is a technique that identifies the most important factors causing the majority of problems or results.

6. Simulation / Modeling

Simulation or Modeling is a technique that uses models or computer-based systems to test and evaluate decisions before actual implementation.

UNIT 2: DECISION MAKING PROCESS TO FACILITATE PROVISION OF ENGINEERING SERVICES/OPERATIONS

Factors affecting decision making: Key factors include availability of resources, time constraints, organizational policies, level of risk, technical complexity, and quality of available information

Decision making tools: Tools such as decision trees, flowcharts, SWOT analysis, and computer-based models help in analyzing options and predicting outcomes

Selecting/identifying solutions, time scale & information gathering: This involves evaluating alternatives against criteria (cost, safety, efficiency), choosing the most feasible solution, setting appropriate timelines for implementation, and gathering accurate data through research, measurements, reports, and stakeholder input

FACTORS AFFECTING DECISION-MAKING

- **Availability of information** – accuracy and completeness of data
- **Time constraints** – urgency influences depth of analysis
- **Risk and uncertainty** – unclear outcomes affect choices
- **Personal biases and emotions** – individual preferences and perceptions
- **Organizational goals and culture** – alignment with mission and values
- **Resources available** – financial, human, and technological limits
- **External environment** – market trends, competition, regulations

FACTORS AFFECTING DECISION-MAKING

Decision-making is influenced by various internal and external factors.
These factors can affect the quality, speed and outcome of a decision.

1. GOALS AND OBJECTIVES



Clear goals help in focusing on what is important and choosing the right option.

- Well-defined objectives lead to better decisions.

2. INFORMATION AVAILABILITY



The availability, accuracy and relevance of information influence the decision.

- Lack of information may lead to wrong decisions.

3. TIME CONSTRAINT



Limited time can create pressure and may not allow a thorough evaluation of options.

- Quick decisions may involve higher risk.

4. EXPERIENCE AND KNOWLEDGE



Past experience and knowledge help in understanding situations and choosing better alternatives.

- More experience leads to more confidence.

5. VALUES AND BELIEFS



Personal values, ethics and beliefs influence the preferences and choices of a decision-maker.

- They shape what is considered right or wrong.

6. EMOTIONS AND MOOD



Emotions such as fear, anger, excitement or stress can affect judgment.

- A positive mood often leads to better decisions.

7. RISK AND UNCERTAINTY



The level of risk and uncertainty involved can impact the choice of alternatives.

- Higher risk requires more careful evaluation.

8. ALTERNATIVES AVAILABLE



The number and quality of alternatives affect the decision.

- More good alternatives increase the chance of better outcomes.

9. ORGANIZATIONAL ENVIRONMENT



Company culture, policies, leadership style and work environment influence decisions.

- Supportive environment promotes better decisions.

10. EXTERNAL ENVIRONMENT



Economic conditions, market trends, legal regulations and technological changes can affect decisions.

- Changes in the environment may require different decisions.

Note: Effective decision-making requires understanding and balancing these factors according to the situation.

DECISION MAKING PROCESS

Decision Making Process in Engineering Services/Operations

Decision making is the process of choosing the best solution to solve engineering or operational problems

It ensures efficient use of resources, safety, and quality service delivery

1. Identify the Problem

The first step is to clearly understand what the problem or situation is that needs a decision.

2. Collect Information

Gather relevant facts, data, and details about the problem to understand it better.

3. Identify Alternatives

List all possible options or solutions that can be used to solve the problem.

4. Analyze Alternatives

Compare each option by checking its advantages, disadvantages, cost, risk, and benefits.

DECISION MAKING PROCESS

5. Select the Best Alternative

Choose the option that is most suitable, practical, and beneficial.

6. Implement the Decision

Put the selected option into action by planning and executing it properly.

7. Evaluate the Decision

Check the results of the decision to see if it solved the problem effectively.

8. Feedback and Improvement

Learn from the outcome and make improvements for future decisions.

RATIONAL APPROACH TO DECISION-MAKING

Based on **logic, data, and systematic analysis**

Follows a **step-by-step process**:

- Identify the problem
- Gather relevant data
- Evaluate alternatives
- Choose the optimal solution

Focuses on **maximizing outcomes** and efficiency

Assumes decision-makers are **objective and informed**

Commonly used in:

- Business strategy
- Financial planning
- Engineering decisions

Limitations:

- Time-consuming
- Requires complete and accurate information

INTUITIVE APPROACH TO DECISION-MAKING

Based on **feelings, instincts, and past experiences**

Relies on **subconscious pattern recognition**

Useful in:

- **Fast-paced environments**
- Situations with **limited data or uncertainty**

Often used by:

- Experienced professionals
- Leaders making quick judgments

Advantages:

- Quick and flexible
- Works well under pressure

Limitations:

- Can be influenced by personal bias
- Hard to justify logically

BEHAVIORAL APPROACH TO DECISION-MAKING

Focuses on **human behavior, emotions, and cognitive biases**

Recognizes that people are **not always rational**

Introduces concept of **bounded rationality** (limited thinking capacity)

Examines common biases:

- Overconfidence
- Anchoring
- Loss aversion

Emphasizes **real-world decision behavior**

Used in:

- Psychology
- Behavioral economics
- Organizational management

Limitations:

- Less structured
- May not always lead to optimal decisions

PARTICIPATIVE APPROACH TO DECISION-MAKING

Involves **team members and stakeholders** in the decision process

Encourages **collaboration, discussion, and idea sharing**

Leverages **diverse perspectives** for better solutions

Improves **employee engagement and ownership**

Suitable for:

- Team-based projects
- Organizational planning

Advantages:

- Higher acceptance of decisions
- Builds trust and teamwork

Limitations:

- Time-consuming
- May lead to conflicts or delays

DEMOCRATIC APPROACH TO DECISION-MAKING

Decisions made through **group participation, voting, or consensus**

Values **equality and fairness** in opinions

Encourages **open communication and transparency**

Suitable for:

- Group discussions
- Policy-making and team decisions

Advantages:

- Increases involvement and satisfaction
- Produces balanced decisions

Limitations:

- Slower process
- Risk of indecision if consensus is hard to reach

AUTOCRATIC APPROACH TO DECISION-MAKING

Decisions made by a **single leader or authority figure**

Little or **no input from others**

Emphasizes **control, speed, and clear direction**

Suitable for:

- Crisis situations
- Time-sensitive decisions

Advantages:

- Quick decision-making
- Clear accountability

Limitations:

- May ignore valuable input
- Can reduce team morale and creativity

AVAILABILITY OF INFORMATION

Definition: Refers to how accessible, accurate, relevant, and complete the information is when making a decision

High-quality information leads to **better analysis and more reliable outcomes**

Includes:

- **Quantitative data** (statistics, reports, financial figures)
- **Qualitative data** (opinions, experiences, expert insights)

Incomplete or outdated data increases the risk of **errors and poor judgment**

Decision-makers must ensure **credibility of sources** and avoid misinformation

Too much data may lead to **information overload**, slowing down decisions

Effective decisions require selecting **relevant and useful information only**

TIME CONSTRAINTS

Definition: The limited or available time within which a decision must be made

Urgent situations require **fast decisions**, often with limited analysis

More time allows for:

- **Detailed research**
- **Evaluation of multiple alternatives**

Time pressure can lead to **stress and reduced accuracy**

In critical situations, decision-makers rely on **experience and intuition**

Delays in decision-making can result in **missed opportunities**

Effective management balances **speed, efficiency, and accuracy**

RISK AND UNCERTAINTY

Definition: The likelihood of different outcomes occurring and the unpredictability involved in decisions

Risk: Situations where probabilities of outcomes are known

Uncertainty: Situations where outcomes are unpredictable or unknown

High-risk decisions require:

- **Careful evaluation**
- **Contingency planning**

Tools such as **forecasting, probability analysis, and scenario planning** are useful

Individual attitudes (risk-averse vs risk-taking) influence choices

Proper risk management helps minimize **losses and negative consequences**

Balancing risk and reward is key to **effective decision-making**

PERSONAL BIASES AND EMOTIONS

Definition: The impact of personal beliefs, emotions, and mental shortcuts on decision-making

Biases can result in **irrational or one-sided decisions**

Common cognitive biases include:

- **Overconfidence bias** – overestimating one's abilities
- **Confirmation bias** – favoring information that supports existing beliefs
- **Anchoring bias** – relying too heavily on first information received

Emotions such as fear, excitement, or stress can **influence judgment**

Lack of awareness may lead to **poor or inconsistent decisions**

Developing **self-awareness and critical thinking** reduces bias

Combining **logical analysis with emotional intelligence** improves outcomes

ORGANIZATIONAL GOALS AND CULTURE

Definition: The influence of an organization's mission, vision, values, and shared practices on decisions

Decisions must support **long-term objectives and strategic direction**

Organizational culture affects:

- **Decision-making style** (formal or flexible)
- **Level of participation** (individual or group-based)

Strong culture promotes **consistency, accountability, and ethical behavior**

Misalignment can lead to **conflicts, inefficiency, or resistance**

Leaders guide decisions to ensure **alignment with goals**

A positive culture encourages **innovation and collaboration**

RESOURCES AVAILABLE

Definition: The financial, human, and technological assets available to support decision-making

Limited resources restrict the **range of feasible options**

Types of resources include:

- **Financial** – budgets, funding, investments
- **Human** – skills, knowledge, workforce capability
- **Technological** – tools, systems, and infrastructure

Resource availability affects **implementation and success of decisions**

Poor resource allocation can lead to **inefficiency and failure**

Effective planning ensures **optimal use of available resources**

Decision-makers must prioritize **cost-effective and realistic solutions**

EXTERNAL ENVIRONMENT

Definition: Factors outside the organization that influence decision-making processes and outcomes

Includes:

- **Market trends and customer demand**
- **Competition and industry dynamics**
- **Economic conditions** (inflation, growth, unemployment)

Government laws and policies affect **legal compliance and operations**

Technological advancements create **new opportunities and threats**

Social and cultural factors influence **consumer preferences and behavior**

Environmental and global factors may also impact decisions

Organizations must remain **flexible and adaptive** to stay competitive

TOOLS OF DECISION MAKING

Tools of decision making are specific instruments, models or frameworks that help gather information, analyze data and evaluate options to choose the best course of action.

1. CHECKLIST



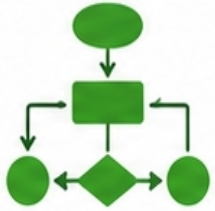
A list of important points to be checked or considered before making a decision.

Useful for:

- Ensuring nothing important is missed
- Simple and routine decisions

Example:
A pilot uses a checklist before takeoff.

2. FLOWCHART



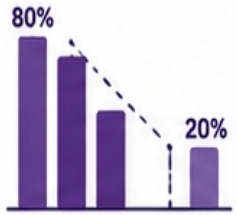
A diagram that shows the sequence of steps in a process or decision.

Useful for:

- Understanding process flow
- Identifying problems and alternatives

Example:
A manager maps the steps of a hiring process.

3. PARETO ANALYSIS (80/20 RULE)



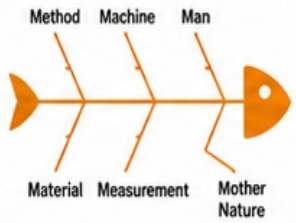
Focuses on the vital few factors (20%) that cause most of the results (80%).

Useful for:

- Prioritizing issues
- Focusing on areas with the greatest impact

Example:
A company focuses on 20% of products that give 80% of profit.

4. FISHBONE DIAGRAM (CAUSE AND EFFECT)



A diagram used to identify, explore and display the possible causes of a problem.

Useful for:

- Finding root causes of problems
- Group discussions

Example:
A team finds reasons for delay in project delivery.

5. DECISION MATRIX

Criteria	Option 1	Option 2	Option 3
Criteria 1	✓	✓	✓
Criteria 2	✓	✓	✓
Criteria 3		✓	
...			

A table used to compare options based on different criteria and weights.

Useful for:

- Comparing multiple options objectively
- Making complex decisions

Example:
Choosing the best vendor based on cost, quality and delivery.

6. COST–BENEFIT ANALYSIS



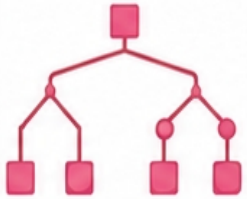
Compares the total costs and total benefits of each alternative.

Useful for:

- Evaluating financial and non-financial impacts
- Justifying decisions

Example:
Deciding whether to invest in new equipment.

7. DECISION TREE



A tree-like diagram that shows alternatives, possible outcomes and their consequences.

Useful for:

- Analyzing different scenarios
- Decisions under uncertainty

Example:
Choosing a market entry strategy with different possible outcomes.

8. BENCHMARKING



Compares performance with the best in the industry to identify gaps and improvement areas.

Useful for:

- Improving performance
- Setting standards and goals

Example:
A company compares its service quality with the industry leader.

Note: The right tool depends on the situation, type of decision, available data, time and the decision maker's objective.

DECISION-MAKING TOOLS

SWOT Analysis – identifies strengths, weaknesses, opportunities, threats

Decision Matrix – compares alternatives using weighted criteria

Cost-Benefit Analysis – evaluates financial pros and cons

Flowcharts – visualize processes and possible outcomes

Brainstorming – generates creative ideas in groups

Pareto Analysis (80/20 Rule) – focuses on most impactful factors

Decision Trees – maps possible decisions and consequences

SWOT ANALYSIS

Definition: A strategic tool used to identify **Strengths, Weaknesses, Opportunities, and Threats** related to a decision or situation

Strengths: Internal advantages (skills, resources, expertise)

Weaknesses: Internal limitations (lack of resources, gaps in capability)

Opportunities: External factors that can be beneficial (market growth, trends)

Threats: External risks (competition, economic changes)

Helps in **understanding the overall position** before making decisions

Encourages both **internal and external analysis**

Widely used in **business planning and strategy development**

DECISION MATRIX

Definition: A tool used to evaluate and compare different options based on **specific criteria and their importance (weights)**

Involves:

- Listing alternatives
- Defining evaluation criteria
- Assigning weights to each criterion

Each option is scored and **total scores are calculated**

Helps in making **objective and structured decisions**

Reduces personal bias by focusing on **quantifiable factors**

Useful when there are **multiple alternatives to compare**

COST-BENEFIT ANALYSIS

Definition: A method used to compare the **total expected costs** against the **total expected benefits** of a decision

Costs may include:

- Financial expenses
- Time and effort
- Opportunity costs

Benefits may include:

- Profit
- Efficiency
- Long-term gains

Helps determine if a decision is **financially worthwhile**

Supports **rational and evidence-based decision-making**

Important in **investment and project evaluation**

FLOWCHARTS

Definition: Visual diagrams that represent the **steps in a process and possible decision paths**

Uses symbols such as:

- Arrows (flow direction)
- Diamonds (decision points)
- Rectangles (process steps)

Helps in **simplifying complex processes**

Makes it easier to **identify problems or inefficiencies**

Improves **communication and understanding** among team members

Useful in **process planning and problem-solving**

BRAINSTORMING

Definition: A group creativity technique used to generate **a wide range of ideas and solutions**

Encourages **free thinking and open discussion**

Key principles:

- No criticism during idea generation
- Focus on quantity over quality initially

Promotes **innovation and diverse perspectives**

Ideas are later **evaluated and refined**

Useful in solving **complex or creative problems**

Enhances **team participation and collaboration**

PARETO ANALYSIS (80/20 RULE)

Definition: A technique based on the idea that **80% of results come from 20% of causes**

Helps identify the **most significant factors** affecting a problem

Steps include:

- Listing issues
- Measuring their impact
- Prioritizing the most critical ones

Focuses efforts on **high-impact areas**

Improves **efficiency and resource allocation**

Commonly used in **quality control and problem-solving**

DECISION TREES

Definition: A diagram that maps out **possible decisions, outcomes, and consequences in a tree-like structure**

Includes:

- Decision nodes (choices)
- Chance nodes (uncertain outcomes)
- Branches (possible paths)

Helps visualize **complex decision scenarios**

Allows calculation of **probabilities and expected values**

Supports **logical and structured thinking**

Useful in situations involving **risk and uncertainty**

IDENTIFYING SOLUTIONS

Define **clear objectives and desired outcomes**

Generate **multiple possible solutions**

Evaluate options based on:

- Feasibility
- Cost
- Risks
- Benefits

Compare alternatives using **structured tools**

Choose the **best-fit solution**, not just the easiest

Ensure alignment with **goals and constraints**

Prepare for **implementation and monitoring**

OBJECTIVES AND DESIRED OUTCOMES

Definition: Clearly identifying what you want to achieve through the decision-making process

Establishes a **clear direction and purpose**

Objectives should be:

- **Specific** – clearly stated goals
- **Measurable** – possible to track progress
- **Achievable** – realistic within resources

Helps in **focusing efforts and avoiding confusion**

Provides a basis for **evaluating success or failure**

Ensures all decisions align with **overall goals**

GENERATE MULTIPLE POSSIBLE SOLUTIONS

Definition: The process of identifying a variety of alternatives to solve a problem

Encourages **creative and critical thinking**

Avoids relying on a **single or limited option**

Techniques include:

- Brainstorming
- Research and analysis
- Consulting experts or teams

More options increase the chance of finding the **best solution**

Promotes **innovation and flexibility**

EVALUATE OPTIONS

Definition: Assessing each alternative carefully to determine its strengths and weaknesses

Helps identify the **most suitable solution**

Evaluation is based on key criteria such as:

- Feasibility
- Cost
- Risks
- Benefits

Encourages **objective and systematic analysis**

Reduces chances of making **biased or poor decisions**

FEASIBILITY

Definition: The practicality and possibility of successfully implementing a solution

Considers:

- Availability of **resources** (time, money, skills)
- **Technical requirements**
- Organizational capability

Helps eliminate **unrealistic or impractical options**

Ensures the solution can be **effectively executed**

Comparing Alternatives Using Structured Tools

Definition: Using systematic methods to compare different options objectively

Tools may include:

- Decision matrix
- Cost-benefit analysis
- Decision trees

Provides a **clear and logical comparison**

Reduces **personal bias and subjectivity**

Helps in identifying the **most effective option**

Ensure Alignment with Goals and Constraints

Making sure the selected solution fits organizational goals and existing limitations

Aligns with:

- Strategic objectives
- Mission and vision

Considers constraints such as:

- Budget
- Time
- Policies

Prevents **conflicts and inefficiencies**

Ensures smooth **implementation and acceptance**

Prepare for Implementation and Monitoring

Planning how the decision will be executed and tracking its progress

Develop an **action plan** with clear steps

Assign **roles and responsibilities**

Set **timelines and performance indicators**

Monitor progress and **measure results**

Make adjustments if needed for **continuous improvement**

Ensures decision leads to **desired outcomes**

TIME SCALE IN DECISION-MAKING

Short-term decisions:

- Immediate impact
- Quick results
- Less complex

Medium-term decisions:

- Require planning and coordination
- Moderate impact

Long-term decisions:

- Strategic focus
- High impact and risk
- Require extensive analysis

Time scale affects:

- Level of detail
- Resources used
- Type of decision-making approach

SHORT-TERM DECISIONS

Definition: Decisions made to address immediate needs or problems, usually within a short time frame

Focus on **quick actions and rapid outcomes**

Have an **immediate impact** on daily operations

Typically **less complex** and require minimal analysis

Examples include:

- Handling urgent issues
- Day-to-day operational decisions

Often rely on **experience and intuition** due to time pressure

Useful for maintaining **smooth and continuous operations**

MEDIUM-TERM DECISIONS

Definition: Decisions made for a moderate time frame, involving some level of planning and coordination

Require **careful analysis and structured planning**

Have a **moderate impact** on performance and outcomes

Involve coordination between **teams or departments**

Examples include:

- Project planning
- Resource allocation

Balance between **short-term needs and long-term goals**

Require both **analytical thinking and practical judgment**

LONG-TERM DECISIONS

Definition: Decisions made for the future with a focus on achieving long-term goals and strategic objectives

Emphasize a **strategic focus** that shapes the direction of an organization

Have a **high impact** on overall success and sustainability

Involve **greater risk and uncertainty** due to future unpredictability

Require:

- **Extensive analysis and research**
- Careful evaluation of alternatives

Examples include:

- Business expansion
- Investment decisions
- Policy development

Often involve **top-level management and long-term planning**

IMPACT OF TIME SCALE ON DECISION-MAKING

Definition: The influence of the time frame (short, medium, long-term) on how decisions are made

Level of detail:

- Long-term decisions require **in-depth analysis**
- Short-term decisions need **less detailed evaluation**

Resources used:

- Long-term decisions require **more financial, human, and technological resources**
- Short-term decisions use **fewer resources**

Type of decision-making approach:

- Long-term: more **rational and strategic approaches**
- Short-term: more **intuitive or quick approaches**

Ensures decision-makers choose the **appropriate method based on time available**

Helps balance **efficiency and effectiveness** in decision-making

INFORMATION GATHERING PROCESS

Identify **what information is needed**

Determine **reliable sources**:

- Internal data
- External research
- Experts and stakeholders

Use methods such as:

- Surveys and interviews
- Observation
- Data analysis

Ensure **accuracy and relevance** of information

Organize and **analyze data effectively**

Continuously **update information** for better decisions

DETERMINING RELIABLE SOURCES OF INFORMATION

1. Identifying trustworthy and relevant sources from which accurate information can be gathered for decision-making
2. Reliable information ensures **better accuracy and reduced risk of error**
3. Sources must be **credible, updated, and relevant**
4. Helps improve the **quality and effectiveness of decisions**
5. Reduces chances of using **misleading or biased information**

INTERNAL DATA SOURCES

Information generated within the organization itself

Includes:

- Financial reports
- Sales records
- Employee performance data

Helps in understanding **organizational performance and trends**

Easily accessible and **more reliable for internal analysis**

Supports **day-to-day and strategic decision-making**

May be limited in providing **external market insights**

EXTERNAL RESEARCH SOURCES

Information collected from outside the organization

Includes:

- Market research reports
- Industry publications
- Government statistics

Provides insights into **market trends and competition**

Helps in identifying **opportunities and threats**

Expands understanding beyond internal data

May require **time and cost for data collection**

INFORMATION GATHERING METHODS AND TOOLS

Methods used to collect reliable and relevant information from various sources to support effective decision-making

Surveys and Interviews:

- Surveys collect data from large groups using questionnaires
- Interviews provide in-depth, detailed responses through direct discussion
- Useful for gathering **opinions, feedback, and preferences**

Observation:

- Involves directly watching behaviors, processes, or events
- Provides **real-time and accurate information**
- Helps identify **actual practices and hidden issues**

Data Analysis:

- Process of organizing and interpreting collected data
- Uses tools like graphs, statistics, and reports
- Helps identify **patterns, trends, and insights** for better decisions

These methods together ensure **accurate, reliable, and well-informed decision-making**