

Decision Making

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Chapter 1





Decision Making



The process of choosing a course of action involves formulating a decision, obtaining data, and evaluating potential solutions to a conflict between the decision-maker's desired outcome and the reality as it is currently understood.



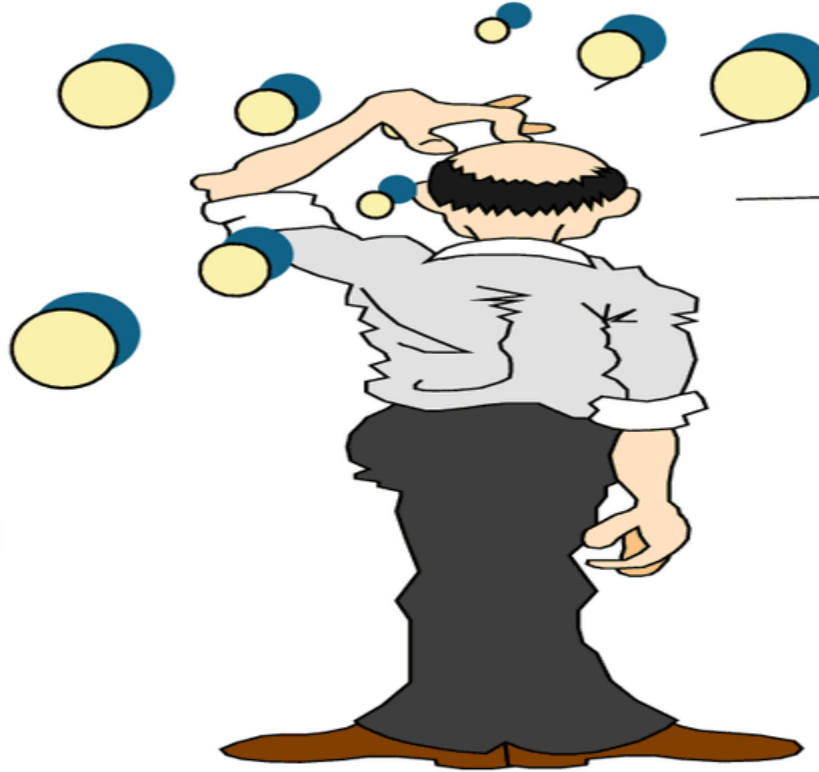
A decision-maker can maximize the value by making the achievement of goals as likely as possible.

3 views on how managers make decisions

Rationality

Intuition

**Bounded
rationality**



Chapter
01

Management decisions are often complex because they involve

- 1. Risk and uncertainty**
- 2. Multiple objectives**
- 3. A complex structure**
- 4. Multiple stakeholders**



Management decisions are often complex because they involve

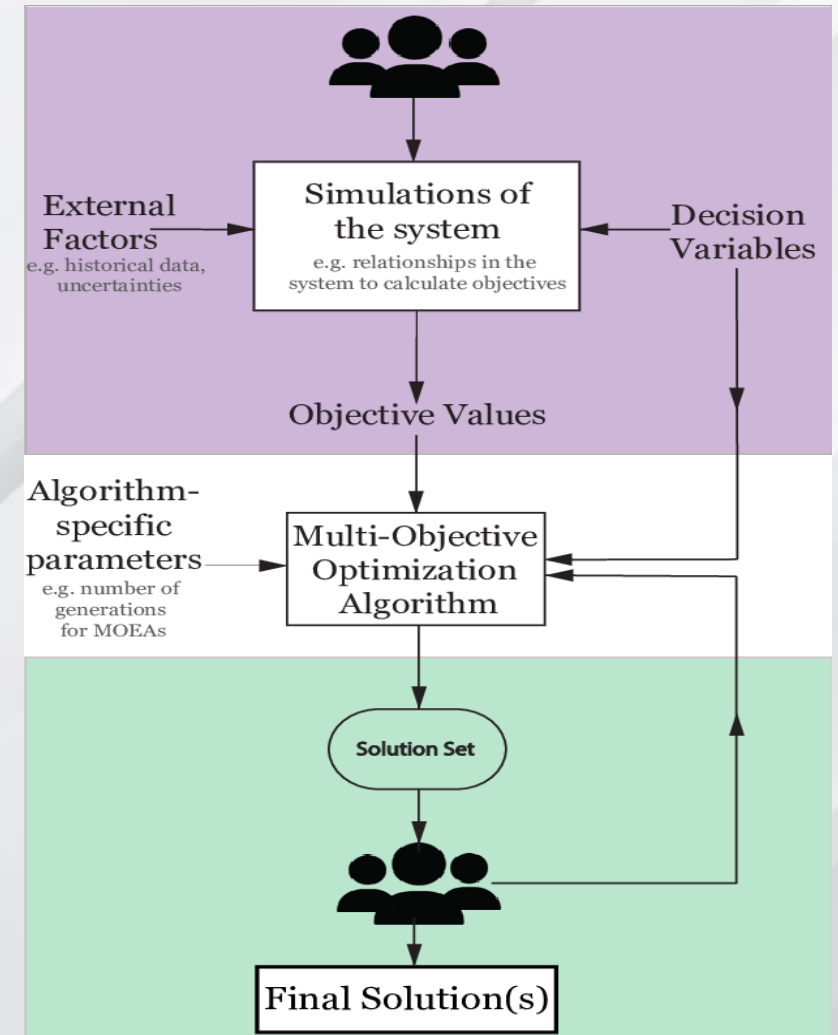
1. Risk & Uncertainty

Risk Versus Uncertainty. Risk, as it is generally understood by health and safety risk analysts, measures the probability and severity of loss or injury. Uncertainty, on the other hand, refers to a lack of definite knowledge, a lack of sureness; doubt is its closest synonym.



Management decisions are often complex because they involve

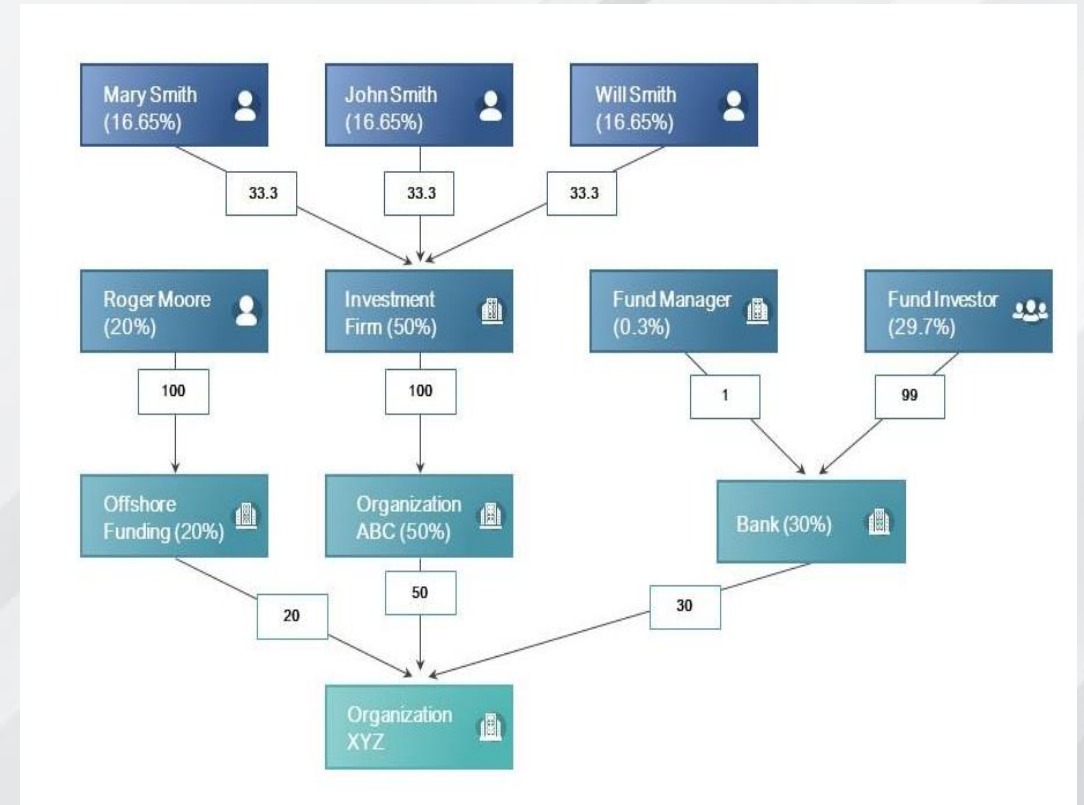
2. Multi-objective decision making (MODM), also known as multi-criteria decision making, is a systematic procedure targeting at supporting decision makers faced with conflicting evaluations. The procedure aims at highlighting these conflicts and deriving a way to come to a compromise in a more transparent manner.



Management decisions are often complex because they involve

3. A complex structure

Decision making are usually made at three levels in **an organization strategic, tactical and operational levels**. Hence, we have three types of decisions based on these three levels. Strategic decisions are executive-level decisions.



Stakeholders are anyone who is affected by, interested in, or has influence over your decision. They can be internal or external to your organization, such as customers, employees, managers, partners, suppliers, regulators, or community members





Why people have problems coping with this complexity?

- ✓ The human mind has limited information processing capacity & memory
- ✓ To cope with complexity, we tend to simplify problems
- ✓ This can lead to inconsistency and biases



01

The Role of Decision Analysis

- ❖ Analysis: ‘divide and grab’
- ❖ Defensible rationale: ‘audit trail’
- ❖ Raised consciousness about issues
- ❖ Allows participation: commitment
- ❖ Insights: creative thinking
- ❖ Guidance on information needs



01

Analysis: 'divide and grab'

The four decision-making styles are :

- ✓ analytical decision-making,
- ✓ directive decision-making,
- ✓ behavioral decision-making, and
- ✓ conceptual decision-making.



The decision-maker should choose the most appropriate style for the choice at hand.

02

Defensible rationale: 'audit trail'

- ✓ Audit trails (or audit logs) act as record-keepers that document evidence of certain events, procedures or operations, so their purpose is to reduce fraud, material errors, and unauthorized use. Even your grocery store receipt is an example of a logged audit trail.

02

What is the difference between decision making and rational decision making?

- ❖ Rational decision-making is considered a precise process because the process uses analysis to arrive at a fact-based decision.
- ❖ Rational decision-making is different from intuitive decision making because the intuitive decision is not as precise, but it is much faster.



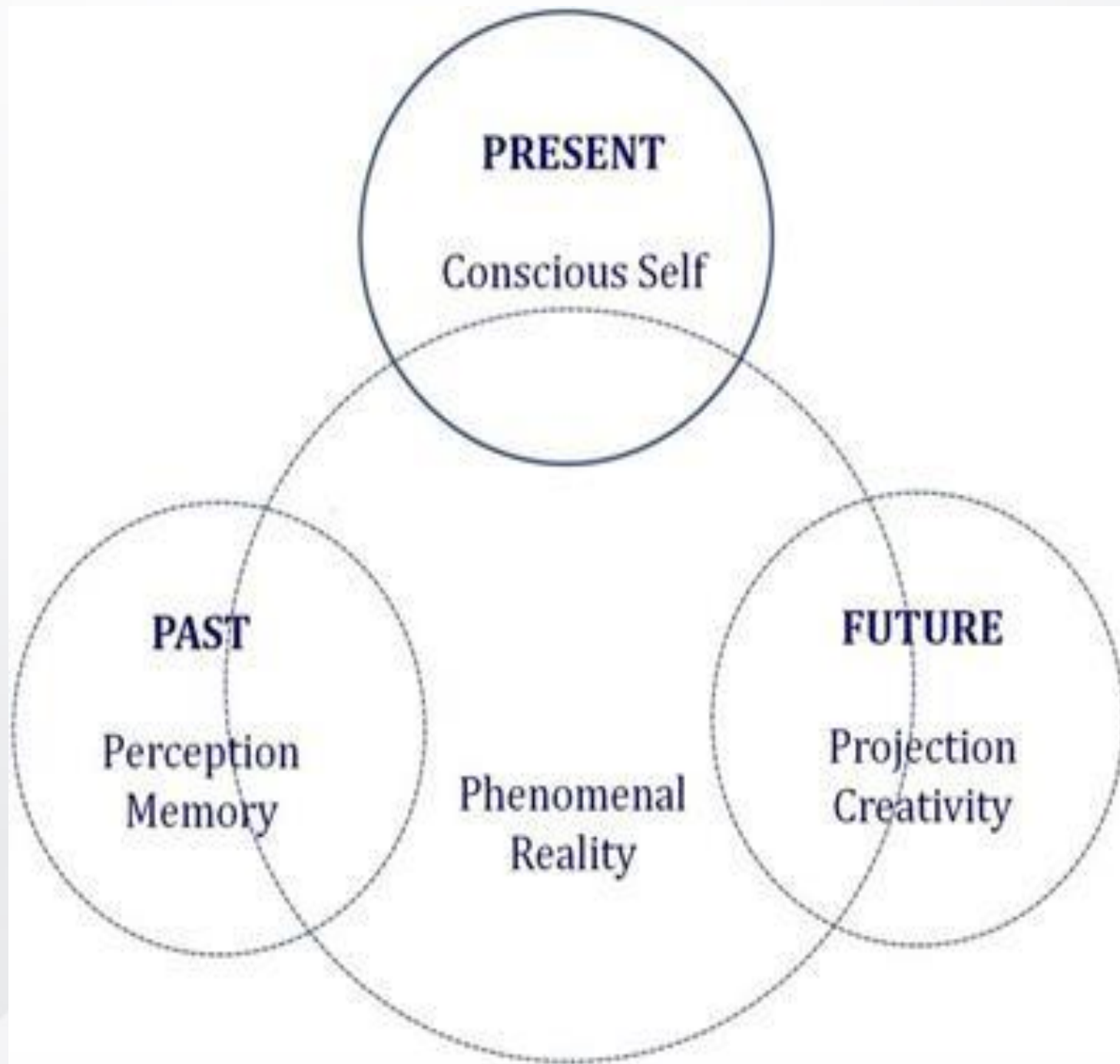
03

Raised consciousness about issues

What does consciousness raising mean?

consciousness raising. noun. the process of developing awareness in a person or group of a situation regarded as wrong or unjust, with the aim of producing active participation in changing it.

For example, speaking up about domestic violence is perceived to be unsafe or risky within many communities, which can discourage women from talking about it. Consciousness-raising is a method intended to undercut these kinds of silencing, among others.



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04

Allows participation: commitment**What is participation in the decision-making process?**

Participative decision-making (PDM) is the extent to which employers allow or encourage employees to share or participate in organizational decision-making.

What is commitment in the decision-making process?

Commitment is the ability stick with the decision-making process and implement the decisions until completion. When management does not stick with the decision-making process, the decision may not be implemented. The company can lose sales and it can affect the organization.

05

Insights: creative thinking

What is insight in creative thinking?

“Insight” refers to the idea that creative solutions to problems come about suddenly, as the result of far-ranging creative leaps, in which thinking breaks away from what we know and moves far into the unknown. We are all familiar with the notion of leaps of insight.

What is a suggested technique for encouraging creative thinking in decision-making?

Divergent thinking is crucial for creativity and innovation, as it allows you to explore multiple perspectives, possibilities, and approaches. To encourage divergent thinking, you can use techniques such as brainstorming, mind mapping, or the Six Thinking Hats.

Level Of Information Need BS EN 17412-1:2022



**Purpose of the
Information (Why)**



**Delivery
Milestones (When)**



**The Actors or
Parties (Who)**



**Breakdown Delivery
(How and What)**

Credit: <https://www.youtube.com/watch?v=IV1l2gbvCKI> - Adapted by Catenda

06

Guidance on information needs

What are the information needs for decision-making process?

Step 1: Identify the decision. You realize that you need to decide.

Step 2: Gather relevant information.

Step 3: Identify the alternatives.

Step 4: Weigh the evidence.

Step 5: Choose among alternatives.

Step 6: Take action.

Step 7: Review your decision & its consequences.

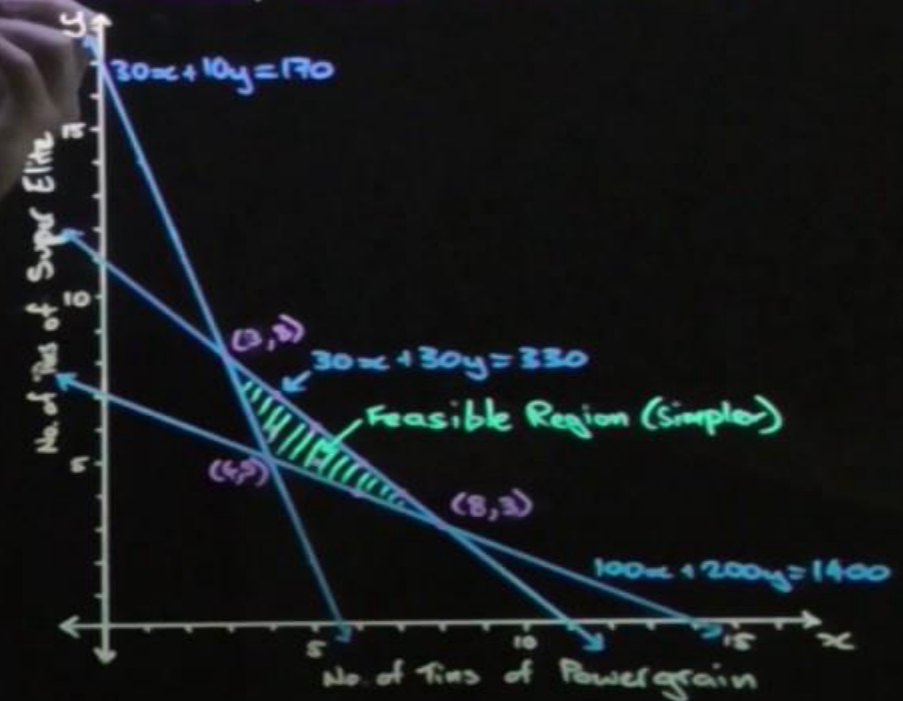
Finding the Optimal Solution

To minimize
($5x + 3y$) dollars

Possible Feasible Points	Cost = $5x + 3y$
(3, 8)	$5(3) + 3(8) = 27$
(4, 5)	
(4, 6)	
(4, 7)	
(5, 5)	
(5, 6)	
(6, 4)	
(6, 5)	
(7, 4)	
(8, 3)	

Objective Function

Food	Carbohydrates	Protein	Vitamins	No. of Tins	Cost
Powergrain	30	30	100	x	\$5
Super Elite	10	30	200	y	\$3
Total Needed	≥ 170	≤ 330	≥ 1400		



Note that the main purpose of decision analysis is to yield *insights and understanding* about the decision problem rather than to impose an ‘optimal’ solution.



Rationality in Decision Making



Rational decision making is the opposite of intuitive decision making. It is a strict procedure utilizing objective knowledge and logic.



06

Guidance on information needs

What are the 4 types of rationality?

The typology of the types of rationality, a classification that must be sifted out of Weber's writings, is one of many conceptual schemes he utilizes to analyze such regularities and patterns. "**Practical**," "**theoretical**," "**formal**," and "**sub-stantive**" rationality constitute this typology.

1

Practical

- the appropriate way of processing information through reasoning

2

theoretical

- deals with what one should rationally believe given a certain set of arguments and assumptions

3

formal

- the type of thinking and logical deduction that people use to determine what is most important in particular situations

4

sub-stantive

- A form of rationality that considers the value of an action

06

Guidance on information needs

What are the 4 C's of rationality?

1. Completeness of information,
2. cognition, the ability to think through problems,
3. computational ability, which is the ability to process information and make fairly
4. complex calculations, and finally, consistency in decision making, both internal and external.

06

Guidance on information needs

What are the 5 approaches of decision-making?

The 5 main decision-making models

- 1) Rational decision-making model.
- 2) Bounded rationality decision-making model.
- 3) Vroom-Yetton decision-making model.
- 4) Intuitive decision-making model.
- 5) The recognition primed model.

Conflicts between analysis and intuition

 • *Analysis* failed to capture some aspect of problem

 *Intuitive* preferences were only partly formed or were inconsistent

**Exploring this conflict can lead to deeper insights & understanding
about the decision problem**

	Advantages	Disadvantages
Analytical style	Structured and stepwise Objective Allows team participation on a level playing field	Can breakdown in the face of complex, multifaceted matters Often requires specialist knowledge Can be very time- and resource-intensive
Intuitive style	Time and resource efficient Can tackle complex matters	Subjective – and open to individual biases Would normally require broad experience for dependable results May require persuasion to convince key stakeholders

Intuition

Rapid and affectively charged judgments influenced by:

- Processing styles
- Decision environment
- Decision task

Expertise-Based Intuition

Rapid generation of single decision options rooted in:

- Extensive domain - specific knowledge
- Pattern recognition
- Automaticity

Expertise

Adaptation of performance processes to the demands of a domain:

- Sensemaking
- Mental simulation
- Situation assessment and problem representation



Conflicts between analysis and intuition

What is the problem with intuition and decision-making?

At its best, intuition is a powerful form of pattern recognition—something human brains are wired to do. But when not managed well, pattern recognition and trusting one's gut may lead to bias and incomplete or overly simplistic thinking, both of which are detrimental to making sound decision



Conflicts between analysis and intuition

What is the difference between analysis and intuition?

Intuitive decision-making can be efficient, flexible, and intuitive, but it can also be biased, inconsistent, or irrational. Analytical decision-making can be precise, systematic, and logical, but it can also be time-consuming, rigid, or complex



Conflicts between analysis and intuition

What is the role of intuition and analysis in decision-making?

Intuition plays an important role in decision-making, especially in situations where there is uncertainty or incomplete information. Intuition is a quick and automatic process of arriving at a conclusion or solution based on one's instincts or feelings, often without fully conscious reasoning or analysis.

Intuitive decision making is systematic, logical, and orderly



Conflicts between analysis and intuition

In what way do you balance data analysis and intuition in your decision process?

To balance both approaches, it's important to recognize the value of both, understand the context of the decision, gather relevant data, trust but verify, take time, seek feedback, and reflect on past decisions. Emotional intelligence can also help evaluate intuition and determine when to trust it or challenge it.



Conflicts between analysis and intuition

What is the main problem with intuition?

"Intuition leads us astray because it's not very good at picking up flaws in the evidence," Gilovich says. "It will be faulty when the world conspires against us and presents information that is unrepresentative and misleading."



Conflicts between analysis and intuition

What is the power of intuition in decision-making?

At times in our careers, we've all been aware of a "gut feeling" guiding our decisions. Too often, we dismiss these feelings as "hunches" and therefore untrustworthy. But renowned researcher Gary Klein reveals that, in fact, 90 percent of the critical decisions we make is based on our intuition.



Conflicts between analysis and intuition

What is an example of intuition in decision-making?

Typical examples where intuition can play an important role in making decisions are: Choosing your life partner, selecting the right car to buy, evaluation of a job, decision about an education, selecting a meal when eating out, selecting the next book to read, decide how to dress for today, and so on



Conflicts between analysis and intuition

What are the limitations of intuition?

Intuition is not always good at evaluating options and solutions. This may be because people tend to fixate on their first idea. Or, because few of us can comprehend the interaction effects between many different components of a situation. Intuition is never good at exploring alternatives.



Conflicts between analysis and intuition

What are the advantages and disadvantages of intuition?

Intuition is based on previous experiences and learned patterns, which our brains use to evaluate situations and problems quickly. However, while instinct can be helpful in some cases, it is only sometimes reliable and can sometimes lead to errors in judgment.



Thank You