



# Cognitive Bias: the Invisible Enemy

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# Individual Decision Making

The capacity of the human mind for formulating and solving complex problems is very small compared with the size of problems whose solution is required for objectively rational behavior in the real world.

Herbert Simon  
*1978 Nobel Prize  
in Economics*

# Individual Decision Making

Think of a complex decision you recently have made.

How did you go about making this decision?

# Objectives for the Session

- Review and discuss the realities of making decisions in complex situations
- Consider the application of various concepts to your work environment
- Identify specific action steps
  - To improve decision making within your sphere of influence
  - Create a culture within your group that will facilitate better decisions



# Constraints at Every Step

## STEP

Monitor environment,  
define problem, specify  
objectives

Develop possible solution  
alternatives

## CONSTRAINTS

- With complex situations, difficult to gain agreement on nature of the problem
- Political power may influence whose problem definition is accepted
- Problems are usually defined in terms of the solutions already possessed
  
- Solution alternatives evaluated one at a time as they are developed
- The first acceptable solution is usually accepted (satisficing)
- Alternatives are based on what was successful in the past

# Constraints at Every Step

## STEP

Evaluate  
alternatives,  
& choose

## CONSTRAINTS

- Limited information
- Type of information available is constrained by factors such as primacy versus recency, extremity versus centrality, expected versus surprising, and correlation versus causation.
- Gathering information on each alternative is costly and takes time
- Satisfactory solutions, not optimal ones, are usually accepted

# Constraints at Every Step

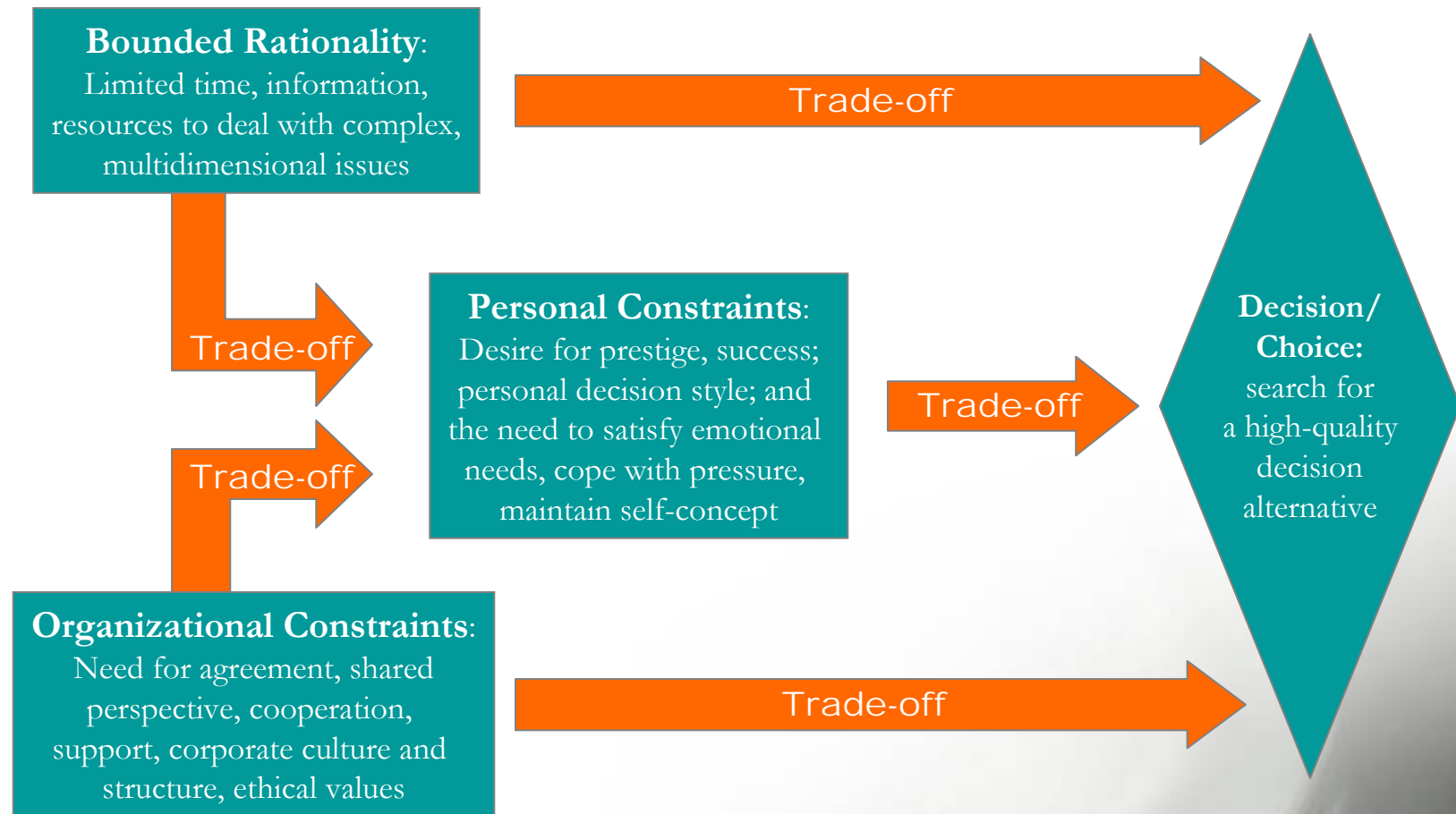
## STEP

Implementation &  
feedback

## CONSTRAINTS

- Acceptance by others of the solution is not always forthcoming
- Resistance to change is a universal phenomenon
- Political and organizational processes must be managed in any implementation effort
- It may take a long time to implement a solution
- Hindsight bias hinders our ability to evaluate effectiveness of our predicted outcomes

# The Realities of Decision Making



Sources: Adapted from Irving L. Janis, *Crucial Decisions* (New York: Free Press, 1989); and A. L. George, *Presidential Decision Making in Foreign Policy: The Effective Use of Information and Advice* (Boulder, Colo.: Westview Press, 1980).

# Cognitive Biases in Decision Making

- Anchoring & Adjustment
- Availability
- Base rate
- Confirming Evidence
- Framing
- Escalation
- Status Quo
- Hindsight

# Some Rules for Debiassing

- Clearly identify the problem
- Specify the goals (criteria) of the decision
  - Where will a good decision take us
  - What criteria/measurements will be satisfied
- Generate alternatives
- Define consequences of various alternatives
- Identify uncertainties in the likelihood of these alternatives
- Think through key tradeoffs
- What about linked decisions
  - Will the decision today have implications for decisions down the road
  - Factor these factors into the current decision

# Some Rules for Debiasing

- Many biases are lessened through the consideration of alternative viewpoints
  - Think about problem on your own (avoid others' anchor)
  - Describe general problem and seek their input (don't want to anchor them)
  - Seek out views of those not previously involved (escalation)
  - Get a devil's advocate – assign the role (think court room)
  - Don't ask leading questions (confirming evidence)

# Some Rules for Debiasing

- Other general tips
  - Question the status quo – realize it is not the only decision
  - Is fear of admitting a mistake driving your decision
  - Revisit goals and criteria periodically
  - Exposure yourself to conflicting information
  - Don't automatically accept initial framing – think of alternative frames
  - Get data to go against memory structures (availability)
  - Get data to take into account base-rates
  - Don't let initial anchor get too much weight – think of alternative anchors (extremes high and low and ask probability)

# Debiasing and Critical Leadership Behaviors

- Encourage open debate
- Listen actively
- Recognize cognitive bias
- Challenge recommendations
- Focus on risk (full exploration)
- Other characteristics
  - Integrity, respect, support, personal interest, recognizing efforts, etc.
  - All build a relationship founded on trust and open communication
  - Necessary for free exchange of information and effective decisions

# A General Conclusion

**We Need to be Aware Things are Not  
Always as They Seem ...**

**We Might Know Less Than We Think**

**We Might Need to Learn More and Seek  
Out Different Perspectives**

# Group Decision Making



# Group-Decision Making Strengths & Weaknesses

- What can be gained:
  - More complete information and knowledge
  - Increased diversity of views
  - More accurate & creative solution
  - Increased acceptance of a solution
  - Increased legitimacy
- What is gained in content can be lost in process:
  - Time consuming
  - Pressure to conform
  - Groupthink
  - Domination by the few
  - Ambiguous responsibility

# Group Think

- Group think (Janis)
  - Tendency of groups to make decisions without carefully evaluating alternative courses of action
- Conditions
  - Highly cohesive group
  - Isolation from alternative sources of information
  - Leader clearly favors a particular option

# Symptoms of Group Think

- Pressure for uniformity
- Group may feel invulnerable or morally superior to other groups
- The group may rationalize away any information that does not fit with the decision
- Members keep silence about misgivings to minimize doubts (self-censorship)

# Effective Group Decisions

- Alternative viewpoints and getting all information on the table is critical
- Two things
  - Culture and norms that support it
  - Processes and mechanisms which ensures it happens
- Let's visit an important principle of group decision making

# Group Decision Making

	Advocacy	Inquiry
Concept of decision making	Contest	Collaborative problem solving
Purpose of discussion	Persuasion & lobbying	Testing & evaluation
Participants' role	Spokesperson	Critical thinkers
Patterns of behavior	Strive to persuade Defend your position Downplay contrary evidence	Balanced arguments Open to alternatives Accept/process contrary evidence
Minority views	Discouraged / dismissed	Cultivated / valued
Outcome	Winners / losers	Collective ownership

Adapted from Garvin, D.A., & Roberto, M.A. (2001). What you don't know about Making decisions. *Harvard Business Review*, September issue.

# Group Decision Making

- Inquiry
  - Will result in positive conflict
  - Vigorous debate surrounding issues
  - People sharing both positive and negative information
  
- How would you set up a group for inquiry instead of advocacy?

# Concluding Thoughts

- Individual decision making can be heavily influenced by constraints and biases
- Group decision making can be heavily influenced by social factors
- Must approach critical decisions carefully
  - Ensure problem defined clearly
  - Criteria for success established
  - Alternative viewpoints, data, base rates, status quos, perspectives, anchors and frames are considered
- Your leadership is a key component of your team's decision making success

# Leadership Implications

- From a leadership perspective
  - You must establish a culture
    - Supportive of learning & open communication
    - Encourages experimentation with new ideas, unconventional thoughts and processes
    - Where negative information is openly discussed, evaluated and acted upon
    - Initial problems and ideas are evaluated more deeply for alternative frames, solutions, causes