

# Decision Making

## EMDA 2007 - 2008 Group Project

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## Topics

- **Decision making defined**
- **8 Steps to decision making**
- **Factors impacting decision making**
  - Advantages & disadvantages – group decision making over the individual decision
  - Group decision-making processes
  - Pitfalls and Risks
- **Tools for Making Decisions**
- **Demonstration**

## Defined...



## 8 Steps to Decision Making

- ✦ Recognition of Problem
- ✦ Define A Goal
- ✦ Assembly of Relevant Data
- ✦ ID of Feasible Alternatives
- ✦ Selection of Criterion for Judging Alternatives
- ✦ Modeling the Interrelationships
- ✦ Predictions of Outcomes of Alternatives
- ✦ Choosing the Best Alternatives

## Factors Impacting Decision Making

- **Group vs. Individual Decisions**
- **Group Decision Making Processes**
- **Risks and Pitfalls of Decision Making**

## Advantages - Group Decision Making over the Individual Decision

- **Better decision because collective knowledge is greater than one person's knowledge.**
- **Group involvement in decision leads to committed implementation.**
- **Groups gather a broad set of alternatives.**
- **The level of risk in the decision can be more balanced.**
- **The collective judgement is usually better.**

## Disadvantages - Group Decision Making over the Individual Decision

- Interactive groups can develop “group think”.
- One opinion dominates the group.
- Time consuming.
- Groups usually make better decisions, but not always.
- Group can be risky.

## Group Decision Making Process Parliamentary Procedure

- Follows Robert's Rules of Order
- Pros
  - “majority rules”
  - sense of fairness
  - firm decision
- Cons
  - Us vs. Them mentality
  - unhappy minority



## Group Decision Making Process - Consensus

Decision is re-drafted until a consensus of all or close to all. Used by the Quakers and Iroquois nations, as well as in political procedures of Switzerland and Belgium.

- **Pros**
  - Promotes inclusion, participation, cooperation.
  - Focused on the solution.
- **Cons**
  - Time consuming
  - Preserves the status quo
  - May lead to group think.

## Pitfalls and Risks with Decision Making

- **The Anchoring Trap**
- **The Status-Quo Trap**
- **The Sunk-Cost Trap**
- **The Confirming-Evidence Trap**
- **The Framing Trap**
- **Estimating and Forecasting Trap**

## Some Tools for Making Decisions

- Magic 8-ball
- Pareto Analysis to decide most effective options
- Grid Analysis (aka: Criteria Matrix) for complex decisions
- Paired Comparison Analysis for deciding relative values



## Pareto Analysis

- *Pareto Principle: 20% of population has 80% of the wealth, or, 20% of solutions solve 80% of problems*
- Use to choose which changes generate most “bang for the buck”
- Options are weighted, scored based on value

## Grid Analysis/Criteria Matrix

- Use when deciding between many options involving several factors
- Can tell at a glance which options meet most criteria

• Demo:

Options→ ↓Criteria	scream	H2O balloon	Refresh- ment	pillow/ blanket
Cheap	X	X	X	X
Legal	X	?	X	X
Effective	X	X	X	
No ill-will			X	X

## Paired Comparison Analysis

- Helps prioritize multiple options' *relative* values (importance or effectiveness);
- Good for “apples to oranges” choices;
- Useful when objective data isn't available or priorities aren't clear;

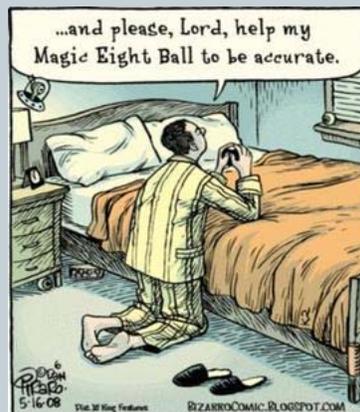
**Which refreshment is most practical for class?**

ITEMS	Ham	Ice Cream	Drink	Burgers	Salad
Ham		IC	D	B	S
Ice Cream			D	IC	S
Drink				D	D
Burgers					S
Salad					

## 8 Steps to Decision Making

- Recognition of problem
- Define a goal
- Assembly of relevant data
- Identify feasible alternatives
- Select criterion for judging alternatives
- Model the interrelationships
- Predictions of outcomes of alternatives
- Choosing the best alternatives

There is a better way...



## References

- John S. Hammond, Ralph L. Keeney, and Howard Raiffa, *The Hidden Traps in Decision Making* (Harvard Business Review, Sept. - Oct. 1998)
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- “Decision-Making Techniques”, MindTools.com, 2008