Decision-making in an austere environment?
From Theory to Practice

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Budget Process Committee, November 21, 2008

A Real Life Story: Prof. Raiffa and his student...
Disclaimers

- Easier to be an armchair consultant than a responsible decision-maker
- Prioritization outcome in a collective context is always unfair to somebody (Arrow’s impossibility theorem)
- Budget cuts make it even more difficult
  - A Google search on “methods for budget cuts” yielded 7.5 million hits
- Lip service: Political rhetoric set aside, education sector will be hitting hard

A brief comment on dealing with budget cuts

- Prioritization sounds right, but “across-the-board” cut is more politically correct, yet not “optimal… globally”
  - E.g. UNLV’s approach (3.42% cut across the board)
- Policy that we hear often among University administrators:
  - General reduction, AND
  - Programmatic reduction
  - But difficult process
- May be too stay at the policy level:
  - Centralized planning and Decentralized execution
  - Individual academic units know best
Tips for prioritization

- Key facts to consider:
  - A model to allow consideration of several criteria at once (quantitative/qualitative; conflicting)
  - Allow for subjective evaluation

- The Condorcet principle (1750):
  - When an action A is better than another action B in the majority of decision criteria, and
  - There is no criterion by which A is clearly worse than B, we can safely argue that A is – overall – better than B, or in other, A outranks B.

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- Example
  - Merging the TIM with Shidler (A) would be a right decision from many points of view (cost, effectiveness, use for supporting other programs, etc.), keeping TIM as a small School. (B)
  - BUT, merger would trigger a huge protest than “not-having-a-merger”,
  - Therefore, A does not outranks B
Multi-criteria Group Prioritization Process

- Agree on vision and objectives
  - Strategic plan should be used as a guide
- Define all the possible options
  - Conditions of completeness (see later)
- Identify all possible decision criteria
  - Condition of exhaustiveness and mutually independence
- Assign weights to criteria (to show relative importance)
- Evaluate options using a (dimensionless) grading scheme
- Find the “best” solution based on the 2 Condorcet principles

Some group decision techniques

- Sum of the ranks: Each member ranks order n solutions; the option that has the smallest sum is the one to choose
- Sum of the scores: On a [1-10] scale (10 being best), each member assigns a score to each option; the option that has the highest total score is the one to choose (additive property)
- Product of the score: On a [1-10] scale (10 being best), each member assigns a score to each option; the option that has the highest product score is the one to choose (multiplicative property)
- Sum of outranking relations: Each member ranks order n solutions; for each option, compute the number of options that it is better, then the option that has the highest number of outrankings across members is the one to choose
Additional fine-tuning…

- Some organizations give weights to decision makers
  - Based on seniority (e.g., Military 1-0-0-0-0-0)
  - Based on degree of important (e.g., based on number of students)
  - Etc.

- There are other techniques, but a bit more sophisticated

- Use of software and consulting to facilitate process

Software Demo if there is interest
A Review of Manager's Decision Toolbox to go along with the prioritization process

- The Model: The economic paradigm
- Simon's Decision Making Model and Problem Solving Model
- Wallas's Model of Creativity
- Lewin and Schein's Model of Change
- Bui and Shakun's Negotiation Model
- Leadership's Model

Economic Paradigm - A Practical Perspective

- Define Objective(s)
  - Keep Strategic Plan in mind in all decisions
- Identify Assumptions
  - Scrutinize them, they are potential causes of failure
- Identify Alternatives
  - Have we explored all possible solutions?
- Analyze Each Alternative
  - Do not kid ourselves
- Choose "Best" Alternative
  - This is when a strategic plan helps
- Execute Chosen Alternative
Model of Decision Making and Problem Solving

- Intelligence
- Design
- Choice
- Implementation
- Monitoring

Model of Creativity: “Town hall meetings”

- Preparation - “outside the box”
- Incubation - matching ideas to “new” needs
- Illumination - “Eureka” (killer’s application)
- Verification - technologically and economically feasible

Examples:
- Washington State University Process
- Toshiba’s FAX machine in the 1980’s (Photocopy + Phone)
- Apple Inc.’s iPhone (mobile phone + Internet + iPod)
Change Model

- **Unfreeze**
  - Use budget cut as a “means” to force change

- **Implementation**
  - Change organization structure to facilitate implementation

- **Freeze**
  - Well, change is the only change, but sustainability is critical for HI-ED

A Model of Social Change: Try to embed the prioritization process

![Diagram showing the 7 Cs organized by level of focus](image-url)
Negotiation Model

- Expand Solution Space
  - Explore new curricula (combined), new structures, etc.

- Change Values
  - There might exist different way to achieve academic excellence/reputation

- Change Goals/Objectives
  - This requires some top-level leadership and consensus here

- Change Actors/Players

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Decision Making under Uncertainty & Risk Management
Causes of Uncertainty

- Lack of information
- Complexity of information (abundance)
- Conflicting evidence
- Ambiguity of information
- Interpretation of information (measurement)

Contingency Planning

- Involves the preparation and partial implementation of alternative work processes in the event of a business failure of varying proportions
Basic Principles

- Must be planned ahead to save valuable recovery time
- Preparation reduces harmful stress
- Good communication infrastructures

Final Remarks

- Decision methods as a means for decision makers to think about the problem.
- You take the final decision with the final responsibility
- There is always some uncertainty that we cannot control, but it helps to use:
  - Sensitivity analysis
  - Contingency planning
Leadership model

- Intelligence – get the facts quickly
- Decision – make decision quickly
- Action – make decisive decision
  - Situational decision (solve quickly and effectively a particular problem) → situational leadership (A Hero of the day!)
  - Sustained decision (solve problem without causing other problems) → sustained leadership

Characteristics of a “Good Committee”

- Go beyond operational issues (budget balancing), think strategy
- Stay focus– decide what should be considered for decision / what not
- Set high standards— decision reflects your expectations / Hi standards HI results
- Kindle passion — link decision to a mission / a dream for faculty/staff/students to look up
- Lead other to lead delegate leadership (there is some risk but the benefit could be big)
- Role of Experience – Experienced people still need a framework to model their thinking
Final Remarks

- Prioritization is a very complex process
- Use triangulation approach to move toward a holistic approach to decision-making, one that captures both rationality and irrationality, and certainty and risk
- Get stakeholders involved