

APPENDIX 2

AN EXPANDED EXECUTIVE DECISION-MAKING FRAMEWORK

DEFINITION

IDENTIFY THE PROBLEM. Is there a problem and do we need to solve it now? Have the decision maker approve the major elements of our problem definition.

- Some problems do not need to be solved, and some problems cannot be solved. Some problems can be tolerated indefinitely and others will disappear by themselves.
- Identify the importance, urgency, and magnitude of the problem to determine the resources our organization will devote to solving this problem.
- Is this problem part of a larger problem? Study the backdrop of the problem and how it is related to other problems.
- Can this complex problem be deconstructed to make it easier to work on? Organize the sub-problems hierarchically, show their links to one another, or their sequence in relation to each other.

CRAFT A PROBLEM STATEMENT. Describe the requirement we have that is not being met.

- What is our desired end state?
- What is our present observed condition? Is our equipment, organization, doctrine, or policy inadequate or nonexistent?

SPECIFY THE DECISION OBJECTIVE. What is the desired outcome of our organization's decision making?

CONSIDER THE PROBLEM CONTEXT. Brainstorm an exhaustive list of the factors bearing on the problem.

- Who are the stakeholders? What are their concerns? Will we consider their positions before or after we choose our organization's preferred alternative?
- What triggered our present decision making? Why was this problem brought before us now? How urgent is a solution?
- List the information we already have as influences. Decide whether the items we have brainstormed are internal, to be considered now, while choosing an alternative, or whether they are external to our decision making, meaning we deal with them later during reconciliation.

SET THE PROBLEM BOUNDARIES. Limit the scope of the problem-solving effort to conform to the resources our organization is willing to consume, and identify factors that are immutable.

- Establish the timeframe we have available for studying solutions and the planning horizon we desire our solution to span: a quick fix or a long-term solution?

- Identify our organization's rule sets that bear on this problem. Are some alternatives off limits?
- List facts that are already known, and the assumptions defined or given by the decision maker that are non-negotiable.
- Make assumptions, the statements we take to be true without proof, in order to cope with uncertainty. They must be necessary to proceed and they may cause controversy later; therefore, we should make as few assumptions as possible.

SPECIFY THE ANALYTIC OBJECTIVE(S). Identify the objective of each analysis that will support the decision.

- Analytic objectives are subordinate to the decision objective.
- Each analytic objective must be capable of independent analysis.
- Complex decision will require several supporting analyses, each with a separate analytic objective.

ANALYSIS

ESTABLISH CRITERIA. All programs and policy alternatives can be described in terms of attributes; we call those attributes that will help us opt for an alternative Criteria. We choose criteria that highlight differences between alternatives in effectiveness, cost, schedule, risk and uncertainty where those differences exist. Good criteria have the following characteristics:

- Direct connection to the analytic objective
- Inclusiveness
- Precise definition
- Measurability
- Uniqueness

EVALUATE THE CRITERIA. Examine the criteria, individually and as a set, for:

- Validity: Are we measuring the right things?
- Reliability: Are we measuring well, with the right level of fidelity? How large are our measurement errors, and are our results consistent?
- Practicality: Are the resources we consume worth the knowledge we gain?

DETERMINE THE ANALYTIC METHOD. There are three basic methodologies:

- Exploratory: Wide-ranging, few restrictions, softer data, used for most mission needs identification and concept development.
- Cost-Risk-Effectiveness: Highly structured, data intensive, often using a systems approach, used to compare alternatives.
- Causal: Used in policy analysis to identify cause and effect relationships.

EVALUATE RISK AND UNCERTAINTY

- Identify objective and subjective probabilities and their importance to the decision.
- Decide where to reduce risk or uncertainty by doing additional research, buying it out, or generating expected values.
- Improve subjective probabilities by gathering more expert information.

DEVELOP AN ANALYSIS PLAN. The defense executives and analysts review the analysts' proposals to achieve the analytic objective(s).

CONSTRUCT OR IDENTIFY THE ALTERNATIVES. Sometimes we know the alternatives before we set out to solve the problem; sometimes we identify them as part of the process. Where this step occurs depends on the decision objective and the analytic method. We desire a set of alternatives with:

- Breadth: The set should span the range of solutions.
- Viability: Each option must meet our minimum requirements (or be modifiable to meet them).
- Neutrality: Each option should be presented without bias.

ORGANIZE THE CRITERIA: MODELING. Models are simplifications of reality that enable the decision maker to better understand the differences among alternatives. We select between analytic, force-on-force, and policy models depending upon the decision. When we choose a model, we consider its level of:

- Abstraction: How closely does it mimic the real world?
- Predictability: How well does it forecast the alternatives' behavior?
- Complexity: How difficult is it to build, understand, use, and explain? What does it leave out?

EVALUATE THE MODEL. Evaluate the model in terms of:

- Validity: Does it capture the most important aspect of the alternatives' behavior? What underlying assumptions or critical processes are missing from the model?
- Reliability: Is the model internally consistent and can we rely on its predictions?
- Practicality: Will additional resources improve the usefulness of the model?

EVALUATE THE ALTERNATIVES USING THE MODEL. The outcome of the model should be more than a rank ordering of the alternatives; the results should demonstrate how the alternatives differ. Can lower scoring alternatives be modified to improve their preference with respect to the decision maker?

CONDUCT SENSITIVITY ANALYSIS. Examine the degree to which important assumptions, weighting factors, or variables can be adjusted to alter the outcome.

DECISION

PREPARE TO DECIDE. Adapt the analytical results by assessing:

- Changes in problem definition
- Organizational issues
- Political issues
- Spillover effects: What side effects are likely to be generated by each alternative?
- Timing: Do we need to decide now and what are the penalties for postponing the decision?
- Display the results of the analysis for the Decision Maker.

CHOOSE THE BEST ALTERNATIVE FOR OUR ORGANIZATION. Starting with the preference indicated by the analysis, combined with military judgment and organizational considerations, identify the best option for our organization.

DO A REALITY CHECK. Is this option feasible, i.e., legally, ethically, organizationally, politically, and economically acceptable?

PRESENT THE RESULTS. Prepare the briefing or report that documents the decision.

RECONCILIATION

IDENTIFY PARTICIPANTS. Identify the other principal participants in the decision process and their positions and interests; also identify others who are affected by the decision but who may not participate in making it.

DETERMINE A RECONCILIATION STRATEGY. Decide on the overall approach that our organization will take to protect and advance our interests.

- Identify opportunities for mutual gains and value adding.
- Identify situations where zero sum approaches may be necessary.

MAKE SCORECARDS. Include the minimum acceptable outcome, best alternative to a negotiated agreement, most likely outcome, and best outcome for our organization and each other participant.

NEGOTIATE. Use the following tactics:

- Separate the people from the problem.
- Focus on interests not positions.
- Promote confidence-building.
- Invent options for mutual gain and add value, e.g., consider linking this problem to another issue.
- Insist on objective criteria.
- Husband concessions.
- Break deadlocks.

EXECUTION

IMPLEMENTATION. Implementation planning should take advantage of our earlier work; e.g., our boundaries may provide guidelines for implementation processes. Select management aids that best fit this project.

- Plan: Set a schedule and decide upon a sequence of events that will implement the alternative.
- Organize: Decide who will be responsible for the different aspects of execution and delegate authority to them.
- Control: Identify measurement methods, timing, and standards.

VERIFICATION. The verification process must be in place when implementation begins. It is the process of measuring the product and implementation process and comparing the results to expectations.

- Measures: Decide what to measure; our criteria may be helpful.
- Techniques: Establish how and when data will be collected.
- Objectivity: Decide who will measure (to ensure reports are unbiased).

