

TABLE OF CONTENTS

CHAPTER 1	MAKING DEFENSE DECISIONS	1-1
	Procedure, Experience, and Analysis	1-2
	Procedure-Based Decision Making	1-2
	Experience-Based Decision Making	1-4
	Analysis-Based Decision Making	1-7
	Rational Decision Making	1-10
	Reconciliation and Execution	1-10
	An Executive Decision Making Framework	1-11
	Summary	1-12
CHAPTER 2	PROBLEM DEFINITION	2-1
	The Decision Maker	2-1
	Defining the Problem	2-2
	Organizing the Problem	2-3
	Problem Statement	2-6
	Decision Objectives	2-6
	Problem Context	2-7
	Stakeholders	2-8
	Triggers	2-8
	Influences	2-8
	Influence Diagrams	2-9
	Political Influences and Compromise	2-10
	Working Groups: Stakeholders and Influences	2-11
	Problem Boundaries	2-11
	Timeframe	2-11
	Rule Sets	2-12
	Facts	2-12
	Assumptions	2-12
	Analytic Objectives	2-13
	Summary	2-14
CHAPTER 3	ANALYSIS CONCEPTS: EFFECTIVENESS	3-1
	Action Officers, Decision Makers, and Analysts	3-1
	Types of Analysis	3-2
	Exploratory Analysis	3-2
	Cost-Risk-Effectiveness Analysis	3-2
	Causal Analysis	3-2
	Selecting Alternatives	3-3
	Attributes, Criteria, and Measures	3-7

	Selecting Criteria	3-8
	Assessing Criteria	3-10
	Validity	3-10
	Reliability	3-12
	Practicality	3-13
	Validity, Reliability, and Practicality Interactions	3-14
	Measures of Effectiveness	3-14
	Summary	3-19
CHAPTER 4	ANALYSIS CONCEPTS: COST	4-1
	Selecting Measures of Cost	4-1
	Types of Cost	4-2
	Relevant Cost	4-2
	Sunk Cost	4-3
	Opportunity Cost	4-4
	External Cost	4-5
	Fixed, Variable, and Average Costs	4-5
	Life Cycle Cost	4-7
	Total Ownership Cost	4-8
	Cost, Effectiveness, and Schedule	4-9
	Types of Dollars	4-10
	Current Dollars	4-10
	Constant Dollars	4-10
	Cash Flows	4-11
	Contracting Strategies	4-12
	Summary	4-16
CHAPTER 5	ANALYSIS CONCEPTS: UNCERTAINTY AND RISK	5-1
	Objective Probabilities	5-1
	Subjective Probabilities	5-2
	Risk and Uncertainty Profiles	5-6
	Dealing With Risk and Uncertainty	5-8
	Reducing Uncertainty	5-8
	Buying Out Risk	5-9
	Expected Values	5-10
	Improving Subjective Probabilities	5-10
	Better Information	5-11
	Refine Subjective Probabilities	5-11
	Delphi Methods	5-12
	Worst-Case Scenarios	5-13
	Expected Value with Subjective Probabilities	5-14
	Summary	5-17
CHAPTER 6	ANALYSIS CONCEPTS: COMBINING CRITERIA	6-1
	Combining Cost and Effectiveness	6-1
	Fixing Cost or Effectiveness	6-2
	Cost and Effectiveness Ratios	6-3

	Weighted Models	6-3
	Utility	6-4
	Utility Displays	6-4
	Evaluating Alternatives Using a Weighted Model	6-8
	Combining Risk and Uncertainty with Cost and Effectiveness	6-9
	Summary	6-10
CHAPTER 7	ANALYSIS CONCEPTS: MODELING	7-1
	Characteristics of Analytic Models	7-1
	Level of Abstraction	7-2
	Complexity	7-2
	Prediction	7-4
	Types of Analytic Models	7-5
	Deterministic Models	7-6
	Inventory Models	7-6
	Allocation Models	7-7
	Stochastic Models	7-7
	Cost Analytic Models	7-8
	Evaluating the Model	7-9
	Model Validity	7-9
	Model Reliability	7-10
	Model Practicality	7-10
	Analytic Models and the Information Age	7-10
	Decision Support Systems	7-10
	Networked Models	7-11
	Using the Model to Evaluate Alternatives	7-11
	Sensitivity Analysis	7-12
	Summary	7-18
CHAPTER 8	FORCE-ON-FORCE ANALYSIS	8-1
	Theory of Combat	8-3
	Methods of Force-on-Force Analysis	8-4
	Static, Symmetric Comparisons	8-5
	Static, Asymmetric Comparisons	8-7
	Summary of Static Comparisons	8-7
	Dynamic Force-on-Force Models	8-9
	Future Issues	8-24
	Summary	8-26
CHAPTER 9	POLICY ANALYSIS	9-1
	Values and Policy Analysis	9-1
	Cause and Effect	9-2
	Spillover Effects	9-4
	Policy Analysis Methods	9-4
	Approaches to Policy Analysis	9-4
	Forecasting Techniques	9-6
	Policy Models	9-8

	Data Collection	9-8
	Evaluating Policy Analysis	9-9
	Summary	9-11
CHAPTER 10	DECISION PHASE	10-1
	The Department of Defense's Organizational Culture	10-2
	Decision Making Preparations	10-2
	Omissions in Earlier Phases	10-3
	Spillover Effects	10-3
	Timing	10-4
	Resources	10-5
	Strategy	10-5
	Decision Situations	10-5
	Decision Mapping	10-6
	Decision Trees	10-8
	Reality Check	10-10
	Presentation of Results	10-10
	Preparing for Reconciliation	10-11
	Summary	10-11
CHAPTER 11	RECONCILIATION PHASE	11-1
	Negotiation	11-1
	Participants	11-2
	Cultural Differences	11-2
	Personalities	11-3
	Interests and Positions	11-3
	Pressure for Agreement	11-4
	Authority	11-4
	Team Negotiations	11-5
	Power and Influence	11-6
	Strategies	11-6
	General Approaches	11-6
	Confidence Building Strategies	11-7
	Game Theory and the Use of Negotiation Games	11-8
	The Tit-for-Tat Strategy	11-9
	Asymmetric Values	11-11
	Value Creators and Value Claimers	11-12
	Averaging	11-12
	Scorecards	11-13
	Reconciliation Tactics, Techniques, and Procedures	11-15
	Concessions	11-16
	Attacking Expectations	11-17
	Value Perceptions	11-17
	Deadlocks	11-17
	Public Dispute Resolution	11-18
	The Defensive Approach	11-18

	The Mutual Gains Approach	11-20
	Current Approaches	11-22
	Summary	11-23
CHAPTER 12	EXECUTION	12-1
	Implementation	12-1
	A Plan for Implementation	12-1
	An Organization for Implementation	12-2
	Controls for Implementation	12-2
	Aids to Implementation	12-2
	Verification	12-6
	Verification Measures	12-6
	Measurement Objectivity	12-7
	Summary	12-8
CHAPTER 13	AFTERWORD	13-1
APPENDIX 1	AN EXECUTIVE DECISION-MAKING FRAMEWORK	A-1-1
APPENDIX 2	AN EXPANDED EXECUTIVE DECISION-MAKING FRAMEWORK	A-2-1
APPENDIX 3	TESTIMONY FROM THE SENATE HEARING REGARDING THE V-22 OSPREY	A-3-1
APPENDIX 4	STAFFING ANALYSIS	A-4-1
	Analysis Outside Our Organization	A-4-1
	Advocacy	A-4-2
	Arenas	A-4-2
	Critical Review of Analysis	A-4-3
	Feedback on Analysis	A-4-4
	Coordination Process	A-4-4
	Comments	A-4-4
	Summary	A-4-5
BIBLIOGRAPHY		

TABLE OF FIGURES

Figure 1-1.	An Executive Decision-Making Framework.	1-11
Figure 2-1.	The Definition Phase.	2-2
Figure 2-2.	Hierarchical Problem Organization	2-4
Figure 2-3.	Linked Problem Organization.	2-5
Figure 2-4.	Sequential Problem Organization.	2-5
Figure 2-5.	Influence Diagram.	2-9
Figure 3-1.	Characteristics of Alternatives.	3-7
Figure 4-1.	Fixed, Variable, and Average Costs of Patrol Craft.	4-6
Figure 4-2.	Life Cycle Cost.	4-8
Figure 4-3.	Types of Dollars	4-10
Figure 5-1.	Measures of Risk Wiring Diagram Example.	5-16
Figure 6-1.	Weighted Model for Cost and Effectiveness.	6-3
Figure 6-2.	Straight-Line Utility Curve.	6-5
Figure 6-3.	Curvilinear Utility Function.	6-5
Figure 6-4.	Discontinuous Utility Curve.	6-6
Figure 6-5.	USEUCOM Red/Yellow/Green Measurement Chart	6-7
Figure 6-6.	Model with Weights and Utility Curves	6-7
Figure 6-7.	Calculating an Alternative's Score for Two Criteria.	6-8
Figure 6-8.	Weighted Model for a Portable Radio.	6-8
Figure 7-1.	Models and the Scientific Method.	7-2
Figure 7-2.	Allocation Model.	7-7
Figure 7-3.	Weighted Model for a Portable Radio.	7-13
Figure 8-1.	World War II Asymmetric Theory of Combat Model	8-7
Figure 8-2.	Notional Key Terrain in Southwest Asia.	8-13
Figure 8-3.	Notional Sectors Overlaid on a TACWAR Map.	8-13
Figure 8-4.	Notional Initial Disposition of Allied Ground Forces.	8-14
Figure 8-5.	Notional Arrival of U.S. Ground Forces.	8-14

Figure 8-6.	Notional Arrival of U.S. Air Forces.	8-15
Figure 8-7.	Notional Allied Air Basing in Southwest Asia.	8-15
Figure 8-8.	Notional Allied Sortie Generation.	8-16
Figure 8-9.	TACWAR Model Flowchart.	8-16
Figure 8-10.	TACWAR Target Attrition.	8-17
Figure 8-11.	Battle Lines Calculated by TACWAR for DAWMS.	8-18
Figure 8-12.	Notional Iraqi Ground Force Losses.	8-18
Figure 8-13.	Notional Coalition Ground force Losses.	8-19
Figure 8-14.	Validity and Reliability of Force-on-Force Models.	8-26
Figure 9-1.	Decay of Knowledge Over Time.	9-6
Figure 10-1.	A Decision Tree for Combating Sexual Harassment.	10-9
Figure 11-1.	Prisoner's Dilemma Decision Tree.	11-9
Figure 11-2.	Two Variants of the “Defensive Approach” to Dispute Resolution	11-18
Figure 12-1.	Correspondence Routing Flowchart.	12-3
Figure 12-2.	Serious Accident Pareto Chart.	12-3
Figure 12-3.	Marksmanship Histogram.	12-4
Figure 12-4.	Hazards vs. Training Frequency Scatter Diagram.	12-4
Figure 12-5.	Procurement Program Gantt Chart.	12-4
Figure 12-6.	Product Activity Network Diagram.	12-5
Figure 12-7.	Service Improvement Plan of Action and Milestones.	12-6
Figure A-4-1.	Staff Coordination.	A-4-4