Staff Manual on Strategy

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Foreword

The specific origin of this manual was a memorandum in August 2009 from Jasper Welch to the Director of the Office of Net Assessment), Office of the Secretary of Defense (OSD).

Background for the Memorandum

On May 5, 2009, Barry Watts of the Center for Strategic and Budgetary Assessments (CSBA) interviewed Jasper Welch to gather Welch's reflections on the conduct of strategy development and execution. The interview was undertaken as part of a project at CSBA funded by the Office of Net Assessment, OSD, which is known as OSD/NA.

During that interview, Welch advanced the belief that "really nifty" strategic ideas—genuine insights into how to solve strategic problems—are rare. The bulk of strategy formulation and execution, as much as 80 percent, involves a more "ordinary, work-a-day, cover-the-reasonable-bases" craftsman-like effort. If so, then it would be valuable to have a "how to" manual to articulate the "craft" of strategy. Such a manual would serve to inform staff personnel working on strategy matters, particularly those doing so for the first time.

Key Excerpt from the Memorandum

Subsequent dialog between Welch and Watts, and between CSBA and the OSD/NA, led Welch to pursue the matter by sending a memorandum in August 2009 to Andrew Marshall, the Director of OSD/NA. The key excerpt from this memorandum follows:

> During my more than fifty years of professional work in public policy and large scale aerospace systems development, I have observed a lot of failed efforts in strategy development, strategy approval, and strategy execution. I have also seen and participated in a lot of successes. In reflecting on these experiences, I have come to conclude that much of the difference between success and failure was due to a lack of craftsmanship in the art and practice of strategy—in its development phase, its approval process, and ultimately in its execution.
>
> To be sure, there is a major and critical role in strategy to be played by brilliant insight and deep domain expertise. But I am persuaded, by observation and experience, that these qualities alone are not sufficient to ensure a success in the realm of strategy. Moreover, I am persuaded that dutiful craftsmen, properly trained in the art and practice of strategy, can be of great assistance in bringing brilliant insight and deep domain

> expertise to bear on success in strategy development, approval, and execution. —Jasper Welch

Who are the Participants?

The OSD/NA has supported comparative force analyses, doctrinal and historical studies, methodological investigations, workshops, war games, and other contract research for several decades aimed at supporting the office's diagnostic net assessment. During 2008 and 2009, OSD/NA had ongoing activities focused on developing long-term, competitive strategies for the United States (U.S.) in the post-Cold War era.

CSBA is an independent, non-partisan policy research institute established to promote innovative thinking and debate about national security strategy and investment options.

Welch retired as a Major General in the U.S. Air Force in 1983 after two decades of leadership posts in policy, systems analysis, and major weapons systems development. Since retirement, he has been a consultant for government and industry, serving on many high-level boards and commissions.

OSD/NA's Response to Welch's Memorandum

After subsequent discussion and administrative arrangements, this *Staff Manual on Strategy* was commissioned by the OSD/NA through a contract with the CSBA.

Scope, Audience, and Purpose of Staff Manual on Strategy

This *Staff Manual on Strategy* covers the whole life cycle of a strategy—from the formulation of the objective, through the analyses of pitfalls and opportunities, to the processes for garnering tangible support and approvals, through the execution and adjustment phases, and finally to the critical exploitation of success, or failure, as the case may be.

The strategy space covers many, many applications from widely different kinds of activities. The textual approach includes top-down, structural perspectives as well as a host of examples from real life to provide some bottom-up perspectives.

Target Audiences

Another key excerpt from the memorandum describes the target audiences as follows:

> The target audiences for this manual have one characteristic in common—they are staff, not principals. They are staff to leaders, approvers, and managers. The leaders are the brilliant, charismatic instigators of strategy development. The approvers are the responsible, resource-oriented approvers of strategic effort. The managers are those in charge of pursuing the huge number of interrelated actions contained in the execution phase of any serious strategy—doing so in the face of uncertain facts and data, active opposition by opponents of the strategy, and failure to execute assigned tasks properly by members of their own teams.

Purpose of This Manual

This *Staff Manual on Strategy* is intended to instruct these staff persons how to do a better job. Consequently, it is intended also to assist staff directors in organizing and tasking their respective staffs for effectiveness and efficiency.

> **Tip** For staff directors who are evaluating the utility of this *Staff Manual on Strategy*, we suggest that you look at the Table of Contents, select a chapter that addresses an area of your expertise, and see if that chapter conforms to your own experience and knowledge.

Strategy Work is Difficult—Bunch Your Muscles

There is a long and painful history of otherwise smart and productive persons who do not do well in strategy work. One of the more common causes is that they enter strategy work without fully appreciating how hard it is to do a good job. As a result, they plod along at a pace that served them well in other assignments, use up too much time, and cannot accelerate enough to produce a decent product.

As a result of Barry Watts' studies of the issues and considerations surrounding the difficulty of strategy work, he has proposed six reasons that apply to an important area of strategy work—where there is a competent competitive opponent. His reasons, in his words, are set forth in the following box.

Why Work in Competitive Strategy is Difficult

» Strategies are always heuristics or guesses about how events will eventually play out.

» Strategic problems are "wicked" problems, unamenable to "textbook" or "engineering" solutions.

» Resources are always limited and constrain strategic choice.

» Human rationality is bounded and prone to systematic errors.

» There is a tendency to mistake strategic goals for strategy.

» Insufficient effort is devoted to implementation.

Box 1. Watts' Six Reasons Why Work in Competitive Strategy is Difficult

> **Note** For the reference to the paper that discusses these six reasons, see the Watts 2010 entry in Appendix A, "*Barriers to Acting Strategically: Why Strategy Is So Difficult*."

Acknowledgments

The author is pleased to acknowledge the many substantive contributions made by Barry Watts, of the Center for Strategic and Budgetary Assessments, Washington, DC, during his diligent reviews of this manual.

The author is indebted to his editor, Valarie Morris, of Arroyo Writing, LLC in Santa Fe, New Mexico, for the design and meticulous editing of this manual.

Chapter 1
Getting Started

This chapter gives an overview of what is in this *Staff Manual on Strategy*, why some of the key sections are included, and how the manual is set up to help you find information and use the concepts in the manual to perform high-quality staff work on strategy.

Read the Foreword and Make Notes in the Margins

Perhaps you have already read the foreword. If so, please read it again. The concepts described in the foreword are essential elements in understanding the nature of staff work on strategy.

Use the wide left margin to write down your own notes, comments, and questions. These wide margins, which go throughout the manual, are a convenient place to keep track of your ideas and responses as you read this manual.

Conventions Used in This Manual

Before we go farther, let us acquaint you with the conventions used in this manual:

- The first defining use of a term that is in the glossary is shown with **bold** letters. Afterwards, those terms with meanings unique to this manual are shown with *italics*.
- Critical information is presented for you in a blue box and begins with the word **Important** in red.
- Special information that can save you time is presented in a blue box and begins with the word **Tip** in blue.
- Extra information to help you understand a topic, give you another perspective, or reference a book or paper is presented in a blue box and begins with the word **Note** in black.
- Boxes, like Box 2 on page 14 in this chapter, highlight key information for quick and easy reference.
- The summary boxes and deliverables at the end of chapters give you a quick way to identify important information.

Basis for the Substantive Content of This Manual

This manual is based on many years of the authorship's first-hand experience in strategy design, development, approval, and execution. The techniques and pitfalls described as examples are drawn from scores of real-life experiences that cover a wide range of situations and organizations, including:

- The quandary of a young person facing college and career choices
- Our failed immigration reform of 1986
- Ballistic missile and space races of the 1950s
- The revolution in realistic combat training of the 1970s
- Desert campaigns of the Afrika Korps and the British 8th Army in WWII
- The explosion of venture capital-backed technology firms in the 1990s
- The transformation of IBM by Gerstner in the 1990s
- Strategy revision in Iraq in 2006-2007

> **Note** In addition to military applications, the concepts about strategy in this manual are applicable to a wide range of other domains, including business strategy.

Goals of This Manual

This is intended to be a practical manual. Its goals are to assist staff personnel to perform efficiently and effectively at a professional level, to help avoid common mistakes well known to able practitioners, and to bring proper, valuable outside expertise to bear on their strategy efforts.

This manual is designed to provide guidance to the staff effort across a wide range of applications. The focus is on large strategy efforts—large enough to warrant the establishment of formal staff organizations. However, the concepts work for much smaller and even personal efforts. The lead example in Chapter 3 is for a young person seeking a strategy for college and career.

Accordingly, not all particulars apply readily to all situations. But the general concepts form a practical structure within which staff personnel can organize and evaluate their work.

> **Important** The latter chapters of the manual include a large number of formal staff actions, expressed as deliverables, that are necessary to avoid error in a really large strategy effort. Clearly, the formality is not required for smaller efforts. But the critical thinking at the core of those staff actions is required for success.

Staff personnel must be very mindful that any strategy addressing a real-life problem can turn out to fail in its objective—sometimes completely, very often partially. Diagnosing incipient failure is important and difficult. Recovering from failure is painful and difficult. Preparation for diagnosis and recovery is helpful, but may not be sufficient.

Life Cycle of a Strategy

This practical structure divides the life cycle of a strategy into three tasks—design, development and approval, and finally execution. These tasks differ in many respects. Though they are performed sequentially, overlap and loop-backs occur to deal with practical issues.

The three staffs that support these tasks are the Development Staff, the Approval Staff, and the Execution Staff. Although overlap and loop-backs do occur, on the whole, each staff can perform its work—including activities to recover from partial or complete failure—in a logical, step-by-step manner.

This manual is organized in three parts to address each task in the strategy life cycle:

- Part One—Designing the Strategy (focused on the Development Staff)
- Part Two—Developing and Approving the Strategy (mostly the Development Staff and bringing in the Approval Staff)
- Part Three—Executing the Strategy (overseen by the Execution Staff)

Tip For specific, step-by-step instructions to guide professional staff work, see Chapters 4 through 15. For a chapter listing of activities within the task of each of the three staffs, see Box 2 on page 14.

The staff must adjust the content of each step, of course, to the particular strategy effort at hand. As in all professional staff work, strict attention to facts and logic is required.

Important Strategy failure can result from errors made in any of the three tasks.

To Which Staff Do You Belong?

Each of the three distinct tasks in the **strategy** effort—design, development and approval, and execution—involves different concerns, different types of thinking, and different points of view. In most applications, a unique staff supports each of these three tasks. We name these staffs the Development Staff, the Approval Staff, and the Execution Staff.

Each staff typically reports to a different **staff director**, the dedicated leader of the staff, or even to a different organization or **agency**. An agency is a special type of organization that has a specific function associated with strategy development, approval, or execution.

Important At the outset of your work, determine whether you belong to the Development Staff, the Approval Staff, or the Execution Staff.

After determining to which staff you belong, start learning the concerns, types of thinking, and points of view specific to that staff in your particular organizational setting.

The next sections in this chapter describe the role of each staff. These sections also provide some typical perspectives held by organizations each staff is likely to encounter. At the end of each section is a list showing where to find more information about specific topics in the manual related to each staff.

Role of the Development Staff

The **Development Staff** has a most intellectually challenging task. The *Development Staff* must design and develop a workable plan of action to pursue an ill-defined (usually) goal within a poorly understood, changing field of action. And then the staff must somehow overcome obstacles and opponents along the way and live within changing sets of constraints. The **Development Staff Director** has the critical role of leading the *Development Staff* through its tough task.

The *Development Staff* is usually, at least at first, an *ad hoc* group convened by or for whoever had the idea to create a *strategy* to pursue the goal at hand. The members of the group are called the **staff cadre** in this manual. They are typically drawn from an organization whose concern is to look to the future in some way or the other. We call that organization the **Development Agency**. And, yes, an Approval Agency and an Execution Agency are identified later in this chapter.

> **Important** Naming these entities is solely for clarity of the text. For your *strategy* effort, you can pen the actual names into the ample left margin of this page.

What to Do First?

Every member of the *Development Staff* cadre has a unique way to approach a staff effort. Some worry about the local politics. Some seek to know more about the goal. Others may delve into the history of the knowledge domain within which the goal resides. Diversity of approach offers great value.

This manual generally goes about a new *strategy* effort along the following lines:

1. What are the obvious obstacles and constraints to deal with?
2. How has this goal been pursued in the past?
3. What was learned from those experiences?
4. What strategies have been set forth, but not yet tried? By whom?
5. What objectives short of the stated goal would have value and get support?
6. Who knows more about this domain?

No magic formula exists. Just dig into the subject and learn all you can before the necessary "blocking and tackling" activities become overly demanding.

Early Deliverable for the Development Staff

The initial deliverable of the *Development Staff* is almost always a set of barebones, somewhat conceptual designs of **Draft Alternative Strategies**. It is likely that a number of alternatives are part of this deliverable, with the choice among them dependent upon matters ambiguous and unknown.

These *strategy* designs have a lot of knowable unknowns. That is, someone knows the unknowns, just not the on-board *Development Staff* cadre at the time. The focus of this initial deliverable is best on identifying areas to clarify—for example, figuring out the relative priority of individual aspects of the desired goal.

Real-world experiments, explorations, and surveys can illuminate other unknowns. Those activities are valued actions within a *strategy*. Only by close observation during the actual execution of a *strategy* can we ascertain other unknowns, such as the actions of opponents and surprise.

> **Note** For more information about these unknowns, see Chapter 14, "Surprises and Setbacks During Execution."

As described in Chapters 4, 5, and 6, the staff work involved in designing the *strategy* is very much about identifying what is important to know, assessing how much is known, and determining how to go about filling in the missing pieces. The documents identified as deliverables for these and later chapters constitute a **work program** of things to do when designing a good *strategy* to pursue your goal.

If, as is usually the case, the *Development Staff* needs additional resources and permissions to pursue this program of things to do, the next step is to prepare a formal proposal to obtain these resources and permissions.

Proposal to Develop a Strategy

The purpose of the work described in the **Proposal to Develop a Strategy** is to bring the *strategy* description—that is, what actions to take—up to a standard sufficient to present the *strategy* for approval to execute. It is not a proposal to execute, merely a proposal to expend resources to fill in the unknowns and then develop a good *strategy* based on as many facts and hard logic as you can muster.

> **Note** For details about the staff work for the proposal, see Chapter 7, "Approval to Develop a Strategy."

The *Development Staff* is the principal staff responsible for generating the *Proposal to Develop a Strategy*. However, the Approval Staff has an important role in crafting the proposal in a form suitable for presentation to the **Approval Authority**. In this regard, the Approval Staff also prepares a separate staff recommendation as to the appropriate matters for the *Approval Authority* to approve.

Developing a Strategy

Chapters 8, 9, and 10 cover the staff work to develop a good *strategy*. Chapters 8 and 9 focus on the two hard issues that ultimately lead to a good *strategy*, or not:

- Dealing with constraints and obstacles
- Comparing and contrasting *Draft Alternative Strategies*

> **Note** For information about *strategy* characteristics to strive for or avoid, see "General Characteristics of Good and Bad Strategies" on page 34. For a summary of incomplete, risky, and unattractive strategies, see Table 5 on page 35.

Equally important, Chapter 10 includes staff work needed to build support in the broader community. This is support for pursuing the goal on the one hand and pursuing it with the particular *strategy* proposed on the other hand.

Proposal to Execute the Strategy

Chapters 10 and 11 cover the staff work to generate a **Proposal to Execute the Strategy**. Both the *Development Staff* and the Approval Staff must be fully engaged in this activity. Any decision to execute a major *strategy* entails a large resource commitment as well as material impact on the reputation of the executing organization—and often a wider range of entities.

Accordingly, the *Approval Authority* for the decision to execute the *strategy* is likely different (higher) than the *Approval Authority* for the decision to develop a *strategy*. This means the Approval Staff is drawn from more senior personnel and from a wider range of organizations. In particular, expect representation from public affairs, environmental concerns, legislative concerns, and legal concerns.

Working with the Development Agency

The *Development Staff* can expect relatively harmonious relationships with the rest of the Development Agency staff. Everyone is in the same business and many staff members have prior experience in *strategy* development.

Dealing with Quarrelsome Stakeholders

Stakeholders in a strategy consist of individuals and organizations that have a real stake in the effort to develop and execute a strategy or in the outcome of that effort.

Because different *Stakeholders* have, in fact, legitimate differences in their perspectives, it is not uncommon for *Stakeholders* to exert conflicting pressures on the *Development Staff*. If these competing *Stakeholders* have sufficient bureaucratic clout, their competing pressures can bring the *strategy* design and development process to a standstill. Worse yet, efforts to accommodate conflicting pressures can warp the *strategy* into a useless mess.

Instead of trying to fix these sorts of problems, it is best for staffs to raise such issues to their leadership levels early, clearly, and professionally. And it is best that any papers staff prepare for this purpose not attempt to choose sides. These papers are most effective when they:

- Provide objective, balanced expositions of the various points of view.
- Present some alternative actions that could resolve the issues and permit constructive work on the *strategy* effort at hand.

For More Information about the Development Staff

The next table shows where you can find information in this manual about the *Development Staff*.

Table 1. Where to Find Information about the Development Staff

For information about	Go to	Pages
Step-by-step approach to *Development Staff* work to design the *strategy*	**Part One** Chapter 4: "Assessing Objectives and Actions" Chapter 5: "Assessing Knowledge and Support Bases" Chapter 6: "Assessing Constraints and Obstacles"	69-86 71-76 77-81 83-86
Part One in summary form	Box 2: "Step-by-Step Activities to Support a Strategy"	14
Staff work to create the *Proposal to Develop a Strategy*	Chapter 6: "Assessing Constraints and Obstacles" Chapter 7: "Approval to Develop a Strategy"	83-86 89-95
Staff work to create a developed *strategy*	Chapter 8: "Dealing with Constraints and Obstacles" Chapter 9: "Analyzing and Improving Strategies" Chapter 10: "Building Support and Approval to Execute"	97-99 101-105 107-111
Staff work to build support	Chapter 10: "Building Support and Approval to Execute"	107-111
Staff work to create the *Proposal to Execute the Strategy*	Chapter 10: "Building Support and Approval to Execute" Chapter 11: "Evaluating Quality of Staff Work"	107-111 113-114
Unknowns that only become apparent during execution of the *strategy*	Chapter 14: "Surprises and Setbacks During Execution"	127-130

Role of the Approval Staff

The first effort of the **Approval Staff**, a dedicated group responsible for stewardship of funds on the project, is to evaluate the *Proposal to Develop a Strategy*. After evaluating the proposal, the *Approval Staff* may well send the proposal back for more work. After some back and forth, the *Approval Staff* is ready to prepare a staff recommendation for the relevant *Approval Authority*.

> **Note** This first effort is not approval to execute the *strategy*, only approval to expend the resources to flesh out the initial, barebones, conceptual *strategy*.

Besides helping the *Development Staff* get funding to develop the *strategy* and later to execute the *strategy*, the *Approval Staff* has another role. The *Approval Staff* must look after the wider concerns of the **Approval Staff Director** and keep their director out of trouble with rules and regulations.

Difficulties in Funding the Proposal to Develop a Strategy

One difficulty with getting the resources to approve the *Proposal to Develop a Strategy* is that it is unlikely the *Approval Staff* is familiar with *strategy* work. And the *Approval Staff* has other, more familiar claimants on its generally fixed, discretionary resources.

Accordingly, the *Development Staff* must spend considerable effort to explain and educate the *Approval Staff* about the importance of the *strategy*. Staff friction between the *Development Staff* and the *Approval Staff* at this point is a common source of trouble.

Another difficulty is the natural propensity to focus too much on the desirability of the *strategy's* objective and fail to evaluate the adequacy of the actions proposed to achieve the objective. Indeed, many purported *strategy* descriptions, especially at the higher levels of organizations, are almost devoid of any content describing how to achieve the objective. Because no actionable strategic activity is identified, nothing happens.

Approval to Execute the Strategy

After the *Development Staff* develops a satisfactory *strategy*, it creates the *Proposal to Execute the Strategy*. Now the *Approval Staff* is back in the spotlight with two critical tasks:

- Evaluating the *Proposal to Execute the Strategy*
- Preparing a staff recommendation for (or against) approval to execute the *strategy*

> **Note** The decision to execute the *strategy* is much more important than the decision to develop the *strategy*. It requires more resources and has higher visibility.

Difficulties in Making the Approval Decision

The approval decision to execute the *strategy* necessarily involves a much wider range of considerations, including the following:

- Public affairs
- Relationships with distant organizations that might be impacted
- Relief from regulatory or legislative constraints
- Resource impacts

> **Important** A common **failure mode** is to overlook some important considerations only to have them erupt, ever so painfully, during *strategy* execution.

The involvement of a wider range of considerations necessarily alerts a wider range of institutions and people to the possibility of the contemplated *strategy* execution. Some may not favor the objective of the *strategy*, the method of execution, or both. On the other hand, some may favor the enterprise and become a source of support. Both cases are covered in the step-by-step approaches in Part Two.

Understanding and Working with the Approval Agency

Members of the *Approval Staff* are usually also members of the **Approval Agency**. We use the term Approval Agency to denote the organization that handles the actual authorization of resources to develop a *strategy* and later, the resources to execute the approved *strategy*.

Approval Staff members are chosen in large part for their knowledge of the workings of the Approval Agency*.* Another key element in the selection of *Approval Staff* members is their personal ability to work with other members of the Approval Agency.

For More Information about the Approval Staff

The next table shows where you can find information in this manual about the *Approval Staff*.

Table 2. Where to Find Information about the Approval Staff

For information about	Go to	Pages
Examples about the complexities in the approval decision to execute a *strategy*	Chapter 3: "Mostly Examples—Historic and Generic"	39-67
Approach to *Approval Staff* tasks and Necessary interactions among all three staffs	**Part Two** Chapter 7: "Approval to Develop a Strategy" Chapter 8: "Dealing with Constraints and Obstacles" Chapter 9: "Analyzing and Improving Strategies" Chapter 10: "Building Support and Approval to Execute" Chapter 11: "Evaluating Quality of Staff Work"	87-114 89- 95 97-99 101-105 107-111 113-114
Part Two in summary form	Box 2: "Step-by-Step Activities to Support a Strategy"	14
Staff work to create the *Proposal to Develop a Strategy*	Chapter 7: "Approval to Develop a Strategy"	89-95
Staff work to create a developed *strategy*	Chapter 8: "Dealing with Constraints and Obstacles" Chapter 9: "Analyzing and Improving Strategies" Chapter 10: "Building Support and Approval to Execute"	97-99 101-105 107-111
Staff work to build support	Chapter 10: "Building Support and Approval to Execute"	107-111

Role of the Execution Staff

The role of the **Execution Staff** is to oversee the actual **execution of the strategy** on behalf of all *Stakeholders*. *Stakeholders* include organizations that provide tangible support to the execution of the *strategy*, that are impacted by execution of the *strategy,* and that oversee activities impacted by execution of the *strategy*.

Note that the *Execution Staff* is not the day-to-day staff to the senior person in the Execution Team, nor is it the staff to anyone in the Execution Agency. Moreover, for a really big strategic effort, the *Execution Staff* may actually take on an unusual form. It may become a gaggle of more or less independent staff groups, each working for a different *Stakeholder*. All serious *Stakeholders* have an interest is overseeing the execution of the *strategy*. They all have a keen interest in whether the *strategy*, taken as a whole, is turning out to be productive in achieving the intended overall goals.

The Position of Execution Staff Director

For clarity of text only, we call this gaggle the *Execution Staff*. And does it have a *staff director? De facto* it does, but getting to that point requires leadership and negotiation.

In the Eisenhower Administration, for example, the President established a White House-based group of senior persons to make sure a number of key *strategy* efforts were pursued in a satisfactory manner. Similarly, Congressional interest in certain programs has often led to formal and informal oversight investigations.

Given this untidy likelihood, establishing a qualified **Execution Staff Director** and obtaining adequate recognition for that position is difficult. But it is worthwhile—if only to organize the flow of information about progress of execution.

A well-conceived *strategy* toward a major objective has many, many actions specified over considerable time. Such a *strategy* has provisions for gathering new data, adjusting actions in response to new data, and dealing with failures to properly execute some critical actions of the *strategy*. The *Execution Staff Director* has a lot of information to organize.

Most important is to determine whether the approved *strategy*, even if it is well executed, is turning out to be a success or a failure—in whole or in part. Such a determination in a real-life, serious problem is very difficult. The *strategy* itself should have actions built in that track relevant metrics. But the metrics may have been ill-chosen and the data collection may not be accurate or complete.

If the data indicates things are going poorly, there is generally a reluctance to own up to even the possibility that the *strategy* needs adjustment. And there is even more reluctance to admit the *strategy* is fundamentally flawed. See Chapter 3 for some examples of this reluctance.

Execution Agency and Execution Team

What we call the **Execution Team** does the actual work of executing the *strategy*. The team is a group of operating organizations brought together to execute the *strategy*. We call the principal organization in the team the **Execution Agency**.

The organizations in the *Execution Team* are existing organizations or organizations newly established just for your *strategy* effort. In military matters, the *Execution Team* is often called a task force. In business matters, the *Execution Team* is often a general contractor with its subcontractors or perhaps the team is organized as a legal partnership.

> **Tip** The *Execution Team* and *Execution Agency* nomenclature is for clarity of text in this manual. Write the actual names that apply to your *strategy* effort in the left margin.

Management Difficulties Facing the Execution Staff

The principal difficulty facing the *Execution Staff* is meeting the major management challenge of keeping it all together. This includes the difficulty of gathering unbiased and timely data about successes and failures as well as preparing backup plans (contingency plans in the business vernacular) in anticipation of potential successes and failures.

Another difficulty is establishing a solid, practical relationship between the *Execution Staff* and the *Execution Agency*. The *Execution Staff* has many masters and has responsibilities to all legitimate *Stakeholders*.

Understanding and Working with the Execution Agency

The *Execution Agency* is the name we use for the largest and most powerful agency within the *Execution Team*. Ordinarily, some person within the agency is appointed as the lead executive of the *Execution Team.*

Sometimes, the lead executive is a person from a smaller organization who belongs to the *Execution Team*. For example, in the case of the U.S. Intercontinental Ballistic Missile (ICBM) Program in the 1950s, the Ramo-Wooldridge Corporation—an altogether new private sector company with an altogether new engineering discipline called Systems Engineering and Technical Direction—was established as the lead executive. Similarly, the government organization in charge was newly established and reported directly to the Secretary of the Air Force through a committee of non-government persons with technical and academic backgrounds.

In the case of the Navy Ballistic Missile Program, the major engineering and construction contractor carried much of the decision-making load. But the Navy set up an altogether new government organization, called Special Projects or simply SP, which reported to the Secretary of the Navy.

In both these cases, the relevant *Execution Agency* was a new organization. The advantage of a new organization is that it can unburden the operations from rules and regulations left over from long-ago issues.

Special Issues for the Execution Agency

If, on the other hand, the *Execution Agency* role is given to an existing agency, some special issues may arise. For example, the *Execution Agency* often has domain experience that leads its leadership to disagree with:

- Certain conclusions and judgments of the *Development Staff* and the *Approval Staff*
- Decisions based on these conclusions and judgments

The *Execution Staff* must work hard to bring forward and adjudicate such honest disagreements early and completely.

Another difficulty is often hidden from view. The *Execution Agency* has often not been given adequate preparation time and resources to carry out the execution of the *strategy*. And the *Execution Agency* may not have been provided a convincing explanation of the value of the *strategy's* objective or the rationale for the *strategy's* approach. In such cases, the *Execution*

Agency rank and file, if not the agency leadership, can naturally resent the intrusion of this new, unknown and hence unwelcome, task. Half-hearted efforts or outright refusal to execute at least some aspects may well result in ultimate failure of the *strategy* to achieve success.

Culture Changes and Pushback

A related difficulty arises if the new *strategy* requires the executing workforce to undergo what is commonly called a "culture change." Here the observed resistance to change is not deliberate pushback, but rather the natural reaction of humans when told to rely upon new, unknown, and untried assumptions and actions for their lives and livelihoods.

Looking Ahead

During the execution phase, some failures and unforeseen opportunities are likely to occur. The longer the execution takes, the more likely. It is a responsibility of the *Execution Staff* to see these coming, to assess the impact on the overall *strategy*, and to make plans to deal with them. As it turns out, good news is often more disruptive than bad news.

> **Note** For the special case of good news and managing success that occurs toward the end of the *strategy* effort, see Chapter 15, "Successes and Failures Toward the End."

For More Information about the Execution Staff

The next table shows where you can find information in this manual about the *Execution Staff*.

Table 3. Where to Find Information about the Execution Staff

For information about	Go to	Pages
Notable examples of failures in execution of the *strategy* and effective efforts to discern lapses in execution	Chapter 3: "Mostly Examples—Historic and Generic"	39-67
Staff work to build support of *Stakeholders*	Chapter 10: "Building Support and Approval to Execute"	107-111
Step-by-step approach to *Execution Staff* tasks	**Part Three** Chapter 12: "Building the Execution Team" Chapter 13: "Measuring and Reporting Progress" Chapter 14: "Surprises and Setbacks During Execution" Chapter 15: "Successes and Failures Toward the End"	115-133 117-121 123-125 127-130 131-133
Part Three in summary form	Box 2: "Step-by-Step Activities to Support a Strategy"	14
Lessons for managing success and failure at the end of the *strategy* execution process	Chapter 15: "Successes and Failures Toward the End"	131-133

Step-by-Step Staff Activities at a Glance

Box 2 summarizes the step-by-step activities of the *Development Staff*, *Approval Staff*, and *Execution Staff*. These activities are covered in Part One, Part Two, and Part Three of this manual, with one chapter devoted to each activity.

> **Note** The blue numbers under each part are the chapter numbers where you can find a full discussion about specific activities.

Step-by-Step Staff Activities to Support a Strategy

Part One—Designing the Strategy (Development Staff)

4 Assessing Objectives and Actions

5 Assessing Knowledge and Support Bases

6 Assessing Constraints and Obstacles

Part Two—Developing and Approving the Strategy (Development Staff in Collaboration with Approval Staff)

7 Approval to Develop a Strategy

8 Dealing with Constraints and Obstacles

9 Analyzing and Improving Strategies

10 Building Support and Approval to Execute

11 Evaluating Quality of Staff Work

Part Three—Executing the Strategy (Overseen by Execution Staff)

12 Building an Execution Team

13 Measuring and Reporting Progress

14 Surprises and Setbacks During Execution

15 Successes and Failures Toward the End

Box 2. Step-by-Step Activities to Support a Strategy

What's in Chapter 2?

Chapter 2 addresses fundamental questions and answers about *strategy*. What is a *strategy*? How can you tell a good *strategy* from a bad one? Is *strategy* only about trickery or is there more? What kinds of things constitute an action in *strategy* language? What is a field of action? What is an end-point objective? Find answers to these questions and more in Chapter 2.

Chapter 2 provides some answers to practical day-to-day staff questions. How can I find expert help with knowledge about the *strategy's* subject matter? What pitfalls show up when dealing with outside experts? How can I find good, seasoned strategic thinkers? What pitfalls show up with them?

Tip Remember to write down your notes, comments, and questions as you read through this manual!

What's in Chapter 3?

Chapter 3 has two sections. The first section gives many examples of historic *strategy* efforts—some successful, others not. At the end of each example is a short discussion on the lessons to be learned. The second section offers a description of **generic strategy types**. At the end of each description is a short table pointing out the advantages and pitfalls for each *strategy* type.

The very first example of an historic *strategy* effort is based on a number of career counseling engagements of the authorship with high school graduates. As such, it is not based on a single case, but on a combination of cases. It does make a fairly neat story that illustrates some important perspectives and techniques in *strategy* development.

Ways to Find Information in This Manual

You can find information in this manual in a variety of ways. The next table shows the main resources available for you.

Table 4. Where to Find Information in This Manual

Section	Information	Pages
Contents	Entire contents of manual	iii-xiii
Lists	Location of each box, figure, and table	xv-xvi
Part One	Its chapters and their locations in the manual	69
Part Two	Its chapters and their locations in the manual	87
Part Three	Its chapters and their locations in the manual	115
Appendix A	"Important Books and Papers on Strategy," with relevant details about the writings and their authors	135-144
Glossary	Definition of words in **bold face**	169-176
Index	Location of topics in the manual	177-194

At the front of your manual are the Contents and Lists pages. The Contents pages give a complete listing of each component of the manual, including the heading and subheading of each chapter. The Lists pages give you the names of all boxes, figures, and tables.

Inside the manual are divider pages for Part One, Part Two, and Part Three. Each of these pages shows the names of all chapters in the part and the starting page number of each chapter.

At the end of the manual are the glossary and the index. The glossary defines the terms used in this manual. The index is a convenient way to quickly find the information you want.

Summing Up and Looking Ahead

For your reference, the next box highlights some of the main topics covered in this chapter.

What was Covered in Chapter 1
» Formats and conventions used in this manual » Life cycle of a *strategy*, from design through execution » The three staffs—*Development Staff*, *Approval Staff*, and *Execution Staff* » The scope of the staff work that lies ahead » The content and organization of future chapters » Where to find additional information in this manual

Box 3. Summing Up Chapter 1

Chapter 2
Let's Talk about Strategy

This chapter begins with a description of *strategy* and explains some of the **key concepts** embedded in the description. We use the term *strategy* in its broad, current usage, which covers more and wider applications than the traditional restriction to military-related matters. The key concepts embedded in our description of *strategy* include objectives, opponents, actions, field of action, constraints, obstacles, and friction.

Tip Words with **bold letters** are special terms defined in the glossary. After shown in bold, those terms with meanings unique to this manual appear in *italics*.

In this chapter, we try to describe each key concept in a logical sequence. However, we must admit failure in our effort of achieving the perfect sequence. It seems an impossible task due to all the interconnections among the concepts embedded in our description of *strategy*.

Later in the chapter is an overview of the classic **levels of strategy** widely used in the *strategy* work of military affairs. Edward Luttwak excellently covers these levels of *strategy* his book titled, *Strategy: The Logic of War and Peace*.

Note For a summary of the classic levels of military *strategy*, see Box 5 on page 27. For the reference to *Strategy: The Logic of War and Peace* by Luttwak, see Appendix A.

Along the way, this chapter points out examples of actions proven useful in *strategy* across a wide range of applications. Sections in the chapter also describe the characteristics of a good *strategy* and the characteristics of *strategies* considered incomplete, risky, and unattractive—unattractive to a financial backer or other supporter.

This chapter also includes sections that describe the values and pitfalls of augmenting the assigned staff cadre with outside experts, how to find promising sequences of action when the initial choices are unmanageably large, and an introduction to some useful techniques in constructing a *strategy*.

What is a Strategy?

We answer the question—What is a *strategy*?—by giving a compact description in two paragraphs that includes all our key concepts. Because of its compactness, you may want to reread our answer a few times. In subsequent sections of this chapter, each key concept is discussed in full.

After reading those sections, you might want to read the next two paragraphs one more time.

Strategy is a set of determined and coordinated actions whose purpose is to achieve an end-point objective. The actions take place within a field of action, which may range from the simple and straightforward (the game of Tic Tac Toe) to the complex and ambiguous (politico-military operations in the Middle East).

A *strategy* must deal with opponents, constraints, and obstacles to avoid failure modes and to mitigate a phenomenon the *strategy* community calls friction. Implicit in devising and evaluating a *strategy* is the underlying sense of urgency (sooner is better), of economy (less cost is better), and assuredness (less risk is better).

This manual focuses on the procedural aspects of *strategy* design, development, approval, and execution—those things for which staffs are responsible. The principals for whom the staffs work have the extraordinary responsibility to choose what *strategy* to approve and to change it as the execution unfolds.

The staffs must be mindful, moreover, that ambiguity and uncertainty lie in every area a serious *strategy* touches. Because most *strategies* for important problems take considerable time to execute, you can expect many aspects of the situation to change—often in unexpected ways. Keen observation during the execution phase and a willingness to adapt and change are essential to success in *strategy* execution.

This manual uses a set of generic words like *strategy, objective,* and *action*. Some readers find these a little abstract. Appendix D presents an account of the *strategy* development for the 2003 intervention in Iraq that relates these generic words to a real-life *strategy* development effort.

What is an Objective?

Objective is shorthand for the circumstance in the world's makeup we are pursuing or, hopefully, have pursued and achieved. In constructing a *strategy*, it is useful to consider three distinct types of *objectives*—end-point *objectives*, proximate *objectives*, and intermediate *objectives*.

As you create your *strategy* and set up these *objectives*, state each *objective* clearly, succinctly, and unambiguously—in one sentence. This clarity guides the *strategy* development and is critical in later stages to measure and report progress of the *strategy* in meeting each *objective*.

Relationship of Actions to Objectives

We take an action to move from one *objective* to another. When we reach one *objective*, it is a springboard to some other *objectives*. Most staff members use simple diagrams to draft networks of actions and *objectives* that illustrate their strategic constructions. Actions seek to change things we want changed.

In 19th century Europe, where formal **military strategy** work emerged, a common action was to move a unit from one place to another. Actions change some things; other things stay the same. Actions have intent; they do not always achieve their intent.

Another common action is to prepare to take a further action. Building a road, changing the product in a factory, training a military unit to high competence in a new mission—all are common actions. Note that actions consume time and resources, whether or not they achieve their *objective*. Often it is important than an *objective* be achieved by a certain time.

End-Point Objective

All *strategies* arise in response to visions or goals. Most are worthy, granted. The problem is that many are ill-defined. But the purpose of a *strategy* is to devise a set of actions that result in a concrete embodiment of a more nebulous vision or goal. We call this concrete embodiment the **end-point objective**.

Now the choice of the *end-point objective* is a crucial, strategic choice. It affects the substance of the *strategy*. It affects the support you can garner to execute the *strategy*. You can narrowly describe the *end-point objective* for clarity, but in many important problems, broader *objectives* are required for real success.

> **Note** The Grand Master of choosing end-point objectives to meet strategic purposes is Lieutenant General Glenn A. Kent USAF (retired). Many examples are found in his book*, An Analytic Memoir*, referenced in Appendix A.

Because it is not an easy choice, it is best to delay the final choice of the *end-point objective* until the *strategy* is quite firm and the implications of alternative choices of the *end-point objective* are clear. The *Development Staff* guides the choice of the *end-point objective* even though many considerations are outside the staff's control.

Finally, if progress toward the chosen *end-point objective* bogs down during execution for whatever reason, a change in that *objective* may well be required. Procedures for dealing with this painful issue are covered in Chapters 13 and 14. An historic example of a change in Iraq is discussed in "Strategy Revision in Iraq in 2006-2007" in Chapter 3 on page 51.

Proximate Objective

A **proximate objective** is an *objective* you can reach directly, from current circumstances—or the **starting point**—in a **single action**. By single action we mean an action for which a substantial expectation of success exists in spite of all known opponents, constraints, and obstacles.

The use of the term *proximate objective* has gained favor in recent years due to the work of Richard Rumelt, a well-respected business *strategy* specialist. Rumelt became dismayed that many business executives spent fruitless efforts directing their workforce to do things they were not trained, motivated, or equipped to do. He counseled these executives to take actions based on *proximate objectives* that are both feasible and useful.

> **Note** For references to Richard Rumelt's works, see Appendix A.

Intermediate Objective

An **intermediate objective** is an *objective* you can reach from successful accomplishment of various *proximate objectives*. *Intermediate objectives* can have immediate value in themselves—for example, reducing costs in a business or building another bridge to increase the flow of supplies to support combat. The strategic value of *intermediate objectives* is in building the network of actions and *objectives* that eventually reach the *end-point objective*.

Note the great freedom in choosing a useful set of *intermediate objectives*. Their choice is not constrained by current circumstances, contrary to *proximate objectives*. Their choice is not constrained by an obvious or vulnerable path between the set of already accomplished *proximate objectives* and *intermediate objectives* and the *end-point objective*.

Herein lies much opportunity to think better and smarter than active opponents. Herein lies the opportunity to mitigate the worst confinements of existing constraints, and to avoid the worst approaches in dealing with obstacles.

Deadlines

In many cases, the achievement of an *objective* has a deadline. *End-point objectives*, *proximate objectives*, and even *intermediate objectives* have deadlines for various reasons.

> **Important** It is critical to provide adequate support, especially resources, for the actions required to meet these deadlines.

If a *strategy* is dependent on deadlines, recognize these deadlines and build them into the *strategy*. Some *Draft Alternative Strategies* may provide more confidence in the ability to achieve certain deadlines, thereby offering a sound basis for choosing those *strategies*.

From One Perspective or Another

Now we look at the **strategy enterprise**, which is the sum total of activity involved in designing, developing, and approving a *strategy*. From one perspective, the choices of *proximate objectives* and *intermediate objectives* can serve to garner support for the *strategy enterprise* by bringing to fruition some long-held desires of major *Stakeholders*—sometimes crudely described as "pork." On the other hand, given the risk that the overall goal of the *strategy enterprise* can change, we can make a sensible argument ensuring that every expenditure of effort (each action) serves as many goals as practical.

How Does a Strategy Look with Actions and Objectives?

The next diagram provides a visual representation of the way a *strategy* with a few *actions* and *objectives* might look. This illustrates the first strategy vignette described in Chapter 3.

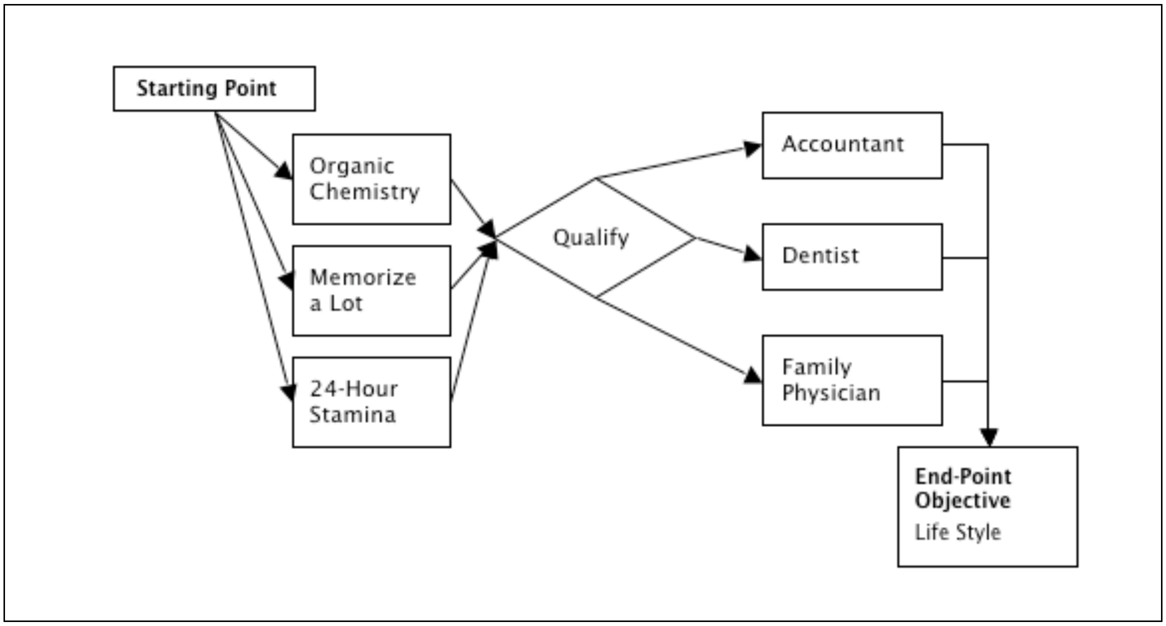

Figure 1. Diagram of a Strategy with Few Actions and Objectives

The next diagram provides a visual representation of a more complex *strategy*. This illustrates another *strategy* in Chapter 3.

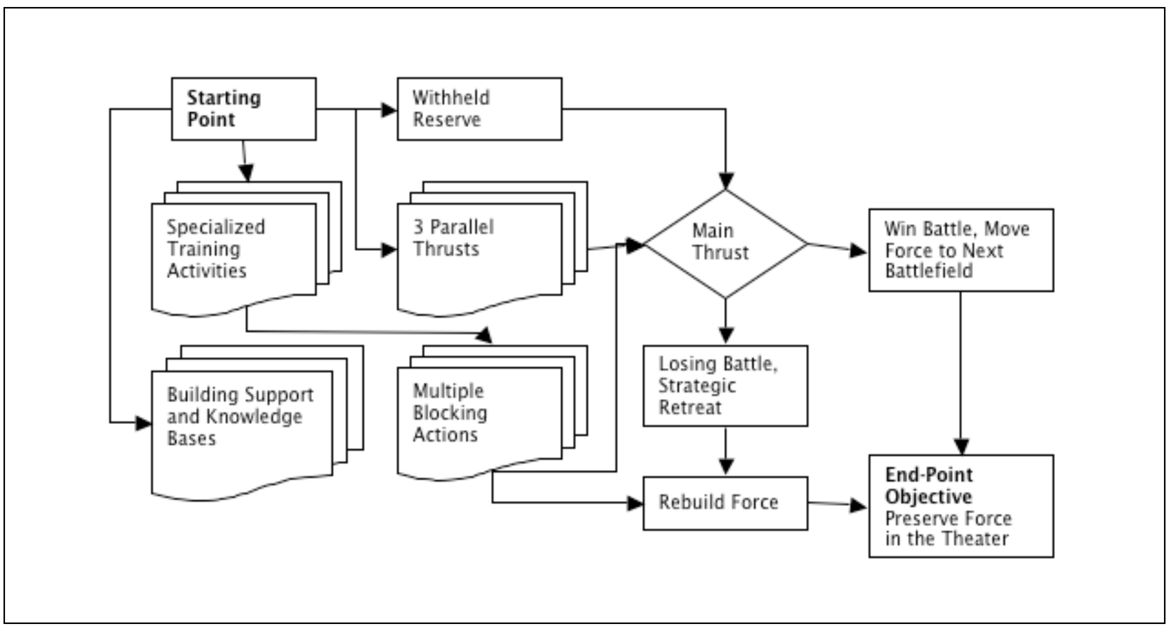

Figure 2. Diagram of a Strategy with More Actions and Objectives

Notice that the *end-point objective* in Figure 2 is to "Preserve Force in the Theater" not to win the war or defeat the enemy. Hence, the battles are not to be "fought to the death." Preservation of the force in the theater is the *objective*—presumably for future or political reasons.

Who and What are Opponents?

In this manual, we refer to the **opponent** in many different contexts. In the most general sense, the *opponent* is whoever or whatever is getting in the way of achieving the *end-point objective* of our *strategy*. It is useful to differentiate three broad classes of *opponents*, which are described in the next box.

Three Classes of Opponents

Class 1

An **antagonist** takes actions against you on the basis of the *antagonist's* own competitive *strategy*, observes your actions, and takes thoughtful counter-actions. Such an *antagonist* may be bound by the rules of the game (checkers, chess, and athletic games) or by custom (certain tribal conflicts). Or, the *antagonist* may not be bound very much, if at all, by law and custom (warfare between sovereign states or against non-state terrorists).

Class 2

A **competitor** takes actions to enhance the *competitor's* position or influence, principally at your expense (increasing revenue and profit in a competitive marketplace, preparing and presenting a competitive proposal for a new business, or conducting a political campaign for public office). Such a *competitor* is often substantially bound by well-established civil law and custom. Certain otherwise very effective actions are forbidden by criminal law (sabotage of facilities, bodily attacks on opposing personnel, fraud, monopolistic practices, and unauthorized use of intellectual property).

Class 3

A real-world **operating environment** presents ambiguous, ill-defined, and changing challenges, perhaps harboring elements of *antagonists* who oppose the *end-point objective* and *competitors* who covet the resources expended. The milieu obscures accurate assessment of the relative value of future actions and interferes with the proper execution of actions undertaken. This messy, real-world operating environment is the principal *opponent* when pursuing new products and new production processes in industrial enterprises, reforms in governmental organizations, and individual careers.

Box 4. Three Classes of Opponents

Tip In *strategy* literature, Class 3—the operating environment—is sometimes referred to as a non-competitive situation.

Note that all *strategies* consist of actions that change things. Such actions always consume resources, generally in an irreversible manner. Such actions usually produce observables, thus calling attention to the perpetrator's identity and *objectives*. In many cases, it is desirable to minimize the consumption of resources and to suppress such observables. In this manual, these considerations are called constraints.

What are Actions?

In this manual, **actions** are expenditures of effort (time, resources, and assets) that change a part of the world from one circumstance to another. In the classic military epoch of the 19th century when the word *strategy* came into wide usage, the movement of forces from one place to another was a common *action*. In today's world of high technology, developing a new piece of consumer electronics is a common *action*. Establishing a research center to explore and exploit a promising new technology is another common *action*.

The set of determined and coordinated *actions* constitutes a *strategy*. We identify the conclusion of *actions* in terms of accomplishing *objectives*. This is a conceptual shorthand to focus *actions* on concrete accomplishments with meaning and value outside the *strategy* construct at hand. In the real world of competition for resources, the choice and description of these *objectives* is an art form of great value.

Moreover, what can be viewed as a single *action* in the example of establishing a research center is clearly a set of determined and coordinated *actions.* These *actions* include garnering support, finding land, creating suitable facilities, and recruiting suitable staff.

Finally, an *action* is definitely more than a wish, a hope, or a longing for something to change. A successful *action* makes a real change happen. An unsuccessful *action* fails to make the intended change happen, or makes an unintended, deleterious change also happen.

What is a Field of Action?

A **field of action** is shorthand to describe the range of *actions* available for use in constructing a *strategy*. Various things can limit the *field of action* for you. Your *competitors* and *antagonists* may be limited to the same or a different *field of action*. Some typical types of limits include:

- Rules of the game (athletic endeavors and board games)
- Custom (some tribal warfare)
- Law and regulation (business endeavors)
- The laws of nature (physical reality)

Important The more ambiguous and ill-defined is the *field of action*, the more valuable is a good *strategy*.

In some cases, the *field of action* is stable and fixed. In other important cases, you or your *opponent* can adjust the *field of action* to seek a competitive advantage. Unexpected adjustments to the *field of action* generally result in a large competitive advantage. For example, the advent of "suicide bombers" in the early 21st century produced a large competitive advantage to those societies that could countenance such *actions*.

What are Constraints and Obstacles?

We often talk about **constraints** and **obstacles** in the same breath, which leads us to our acronym for the phrase **constraints and obstacles** (**C&O**).

> **Note** In this manual, we use the term **C&O Item** to refer to individual entities that have the C&O character. We use a catalog and give each item an identifying number to keep careful track of C&O Items and what the *strategy* is going to do about them. For more information, see "Creating a Constraints and Obstacles Catalog" on page 83 in Chapter 6.

C&O Items are features of the *field of action* that stand in the way of at least some otherwise attractive *actions* that would support promising *strategies*. The most important thing about C&O Items is you cannot ignore them. You must deal with them in some manner.

> **Important** Failure to recognize and deal with C&O Items is one of the most common and most injurious errors in the *strategy* effort.

C&O Items differ in some ways; methods to deal with them also differ. But you can do little harm by ignoring the categorization and just by dealing successfully with each C&O Item you find in your particular *field of action*.

Here is an example in the simplest terms. *Constraints* control the speed with which certain *actions* can proceed (slowdown of the movement rate of the tanks) and limit how the *actions* can occur (vehicle weight is over the limit of some critical roads and bridges). *Obstacles* (government regulations) prevent certain *actions*.

Many government regulations have well-established waiver procedures. If your *action* is sound, it is usually possible to get a waiver—particularly if you need it only a few times and under well-defined circumstances. Moreover, the **waiver authority** is probably someone involved in another aspect of your *strategy enterprise*. The *Development Staff* and *Approval Staff* can best serve the *strategy* by starting to build the support of this waiver authority now.

> **Note** For considerations to take into account when building support of the waiver authority, see "Building a Profile of Your Approval Authority" on page 90 in Chapter 7. Waiver authorities think like many *Approval Authorities*.

Many *constraints* arise from limits imposed by infrastructure that you do not own. If so, the straightforward solution is to use your resources to improve the infrastructure. The initial *action* here is improving the infrastructure. The associated *proximate objective* is having an infrastructure that meets your needs.

What is Friction?

The term **friction** is used in the *strategy* domain to capture the universal experience that "things just do not work out according to plan, and certainly not on time!" Carl von Clausewitz in his classic book, *On War*, deals at length with this phenomenon and offers advice on how to reduce *friction*. More recently, Admiral William Owens has written extensively about the extent to which modern communication and computation equipment and specific procedures can reduce *friction* in military activities.

Barry Watts, however, has argued that *friction* is a structural feature of combat interactions between opposing polities. Some manifestations of *friction* can be reduced, but general *friction* is not likely to be eliminated from future war regardless of technological and other advances.

Note For references of books and papers by Carl von Clausewitz, Admiral William Owens, and Barry Watts, see Appendix A.

Most practitioners strongly counsel to keep a wary eye on the strong likelihood that *friction* is an ever-present feature in all aspects of *strategy* work. All three staffs can count on more *friction* in their work than they expect. Delays happen. Work commissioned to outside agents comes in late with errors. The adversary always gets the opportunity to take clever and compelling counter-actions. And so it goes.

And so, too, can you count on *friction* in the actual execution of the *strategy*. But take heart—the well-worn fixes still work:

- Leave plenty of slack in the schedule.
- Over-train the workforce.
- Provide on-scene supervision.
- Develop and provision alternative plans at every practical level.
- Do not over-promise results, especially to yourself.

Nested Strategies and Responsive Actions

Up to this point, we have referred to *actions* as entities without much elaboration. But we know that *actions* of consequence involve a lot of time and effort. Although we can view an *action* as an entity at one level, we can also view it at a lower level as a whole *strategy*, with its own network of *intermediate objectives* and (lesser) *actions*. Akin to the nomenclature of computer software, these lower level *strategies* are often called **nested strategies**.

Also up to this point, we have kept the opposing *actions* of *antagonists* and *competitors* mostly in the background without explicit recognition. But, of course, our *opponent* also takes *actions* contemporaneously and responsively to our *actions*. And in turn, we take responsive *actions* conditioned by our interpretation of our *opponent's actions*.

Properly interpreting an *opponent's action* demands hard-to-come-by understanding of the *opponent's* goals, calculations, organizational predispositions, and culture. Assuming the *opponent* thinks like we do is always dangerous.

Strategy Levels in Military Strategy

Over the years and in many cultures, specialists in military *strategy* have found it very instructive to formulate and describe *strategies* in the military realm in terms of **strategy levels**. This is the best-known case of nested *strategies*.

Tip Think of *strategy* levels for the military as expanded *fields of action*.

Nested *strategies* in military matters use a custom-based hierarchy of nested *fields of action*. In his book, *Strategy: The Logic of War and Peace*, Luttwak writes extensively about the characteristics and utility of thinking and acting within this hierarchy. Luttwak presents a lucid, in-depth description of the different essences of each *strategy* level along with extensive examples from history. These *strategy* levels are summarized in the next box.

Note For information about publications by Luttwak, see Appendix A.

Strategy Levels Used by Western Militaries

Grand Strategy Level

The **Grand Strategy Level** is concerned with the relationships among involved nation states and global non-state actors, both friendly and adversarial, their political goals, their economic and industrial capabilities, and their military capabilities and commitments. This level generally involves long-term goals and broad-based, nation-to-nation arrangements. If those arrangements are rearranged at the stroke of a pen, they are subject to traumatic change. But if the arrangements are solid and based on mutual self-interest, the Grand Strategy Level can dominate all other levels, often leading to goal fulfillment without the need for actual combat.

Theater Level

The **Theater Level** (sometimes called the Strategic Level) is concerned with campaigns of several sequential battles, fought over wide expanses of terrain wherein the *constraints* and opportunities of the terrain usually play a pivotal role in shaping the battle space and timing. This level generally involves major movements of large forces with attendant dependence upon effective logistics support. The Theater Level generally involves naval and air forces as well as ground forces. It often relies heavily on specialized intelligence collection and analysis to formulate battle plans.

Operational Level

The **Operational Level** is concerned with the innovative use and movement of diverse weapon and sensor platforms to pursue complex *objectives*. This level involves adroit mixtures of relational maneuver, timing, attrition, and fortifications. The Operational Level often relies upon specialized leadership skills and training.

Tactical Level

The **Tactical Level** is concerned with the use and movement of individual weapons, platforms, and sensors to capitalize on their particular physical and performance characteristics, either to exploit inherent advantages or to protect inherent weaknesses. The Tactical Level often relies upon physical skill and training of individual crewmembers.

Technical Level

The **Technical Level** is concerned predominantly with the performance characteristics of weapons, weapon platforms, and their immediately supporting sensors, fire control electronics, and communications. At the Technical Level, one item (for example, a tank or a fighter aircraft) can be determined superior to another item on the basis of its relative physical and performance characteristics alone.

Box 5. Strategy Levels Used by Western Militaries

Important In his book *Strategy: The Logic of War and Peace*, Luttwak gives many examples of how disadvantages at lower *strategy* levels were overcome by skillful *actions* at higher *strategy* levels.

Conversely, Andrew Roberts' book, *The Storm of War: A New History of the Second World War,* details German errors at the strategic level of WWII that obviated the superior fighting power of the German army at the tactical and operational levels of war.

These strategy levels were not used in this form in the English-speaking militaries until late in the 20th century. Prior to that, it was more common to see a two-fold division into "tactics" and "strategy."

In this division, Grand Strategy was considered above or beyond the province of military matters, operational art was not recognized as a separate matter, and "tactics" subsumed the Technical Level as well. However, in the Soviet military as early as the 1920s, the Operational Level of war played a central role in their analysis of armed conflict.

Note For a full account of the Soviet work, see the excellent book by David M. Glantz listed in Appendix A.

Practice of Grand Strategy in the U.S. Government

It is common to see criticisms of the practice of Grand Strategy in the U.S. government. There are two recurring complaints. First, that the individual cabinet departments and independent agencies adopt operating strategies with only minimal reference to and coordination with each other. Second, that the published statements of national strategy are limited to statements of desired goals and visions, but without adequate descriptions of how the various departments and agencies would fulfill those goals and visions.

A recent and thoughtful example of such criticism is the Congressionally chartered Quadrennial Defense Review Independent Panel. Among its wide-ranging points are the following:

- The basic organizational structure of both the Legislative Branch and the Executive Branch are inadequate to deal effectively with the types of national security challenges of the 21st century.
- The U.S. military needs new mechanisms to facilitate its working in close coordination with U.S. civil agencies, non-military agencies of foreign governments, and non-governmental agencies.
- Top-down Presidential direction is needed as to how to pursue strategic goals as well as what goals to pursue.

What is a Knowledge Base?

We use the term **knowledge base** for the organized knowledge upon which you can build a *strategy*. Unlike an encyclopedia, which contains what is known, the *knowledge base* contains both what is known and relevant as well as what is relevant but not yet known!

That is, we can describe items we need to know but have not yet found out. These missing items matter. Especially in the design phase of the *strategy* effort, careful attention is required to organize the missing items—what they are, why they are needed, and how to find them.

> **Note** For more information about *knowledge bases*, see "What is the Knowledge Base?" on pages 77-78 in Chapter 5.

What is a Support Base?

We use the term **support base** for the organized data about relevant persons and organizations. The data shows how they view the *strategy* effort and to what extent you can rely upon them to offer material support, or perhaps opposition, to the enterprise.

As with the *knowledge base*, the *support base* includes descriptions of items that are relevant but not yet known. Such missing items are important to the extent they are relevant. Finding the missing data is altogether worthwhile. Unlike the *knowledge base*, you can change the found data in the *support base*. You can persuade *opponents* to become supporters and vice versa.

> **Note** For more information about *support bases*, see "What is the Support Base?" on pages 79-80 in Chapter 5.

What Can Go Wrong?

The simple answer, of course, is "almost anything and everything." But we focus on the following four items that can lead to failure mode:

- Your *opponent* can think smarter or act quicker (than you).
- Your *knowledge base* can be inadequate.
- Your *Execution Team* can be inadequate.
- Your *support base* can be inadequate.

> **Important** *Knowledge base* and *support base* inadequacies feed on each other. Quicker and smarter *opponents* create stress on both bases.

Good staff work during *strategy* development can go a long way to reduce the probability of these things going wrong and to reduce the severity of the consequences when they do.

Your Opponent Can Think Smarter or Act Quicker

In *strategy* execution efforts in which the *actions* of your *opponent* play a paramount role in determining the outcome, the focus is on the comparative value of your *actions*. In this discussion, there are two *opponents*—you are the *opponent* of your *opponent*.

Both *opponents* have background information on each other. Both *opponents* have some real-time information on each other. Both *opponents* take all their information into account, make a plan of *action*, and execute the first steps of their respective plans. They also view what their *opponent* is doing and then they adjust their thinking, they take other *actions*, observe, adjust, act, and so forth.

The eventual outcome depends upon which side thinks smarter and acts quicker. John Boyd, an accomplished U.S. Air Force fighter pilot, developed this important type of *strategy* in the 1970s.

> **Note** For references to the *strategy* of John Boyd, see Appendix A.

Your Knowledge Base Can Be Inadequate

Your *knowledge base* is subject to the following three types of inadequacy, which stem from not knowing who has the information or not knowing how to access the information:

- Matters known to someone, just not yet known to the staff cadre.

  > **Note** For some practical approaches to seeking and using qualified, reliable, expert knowledge, see "How to Find, Recruit, and Use Expert Help," on page 31.

- Matters that can be known with dedicated research and experimentation. The operating word is "dedicated." Too often effort is wasted because it is off target or too late. Useful effort is well-directed and well-motivated. Staffs must not shirk the required effort. Dedicated intelligence collection about *opponents* also fits into this category—but, of course, an adequate understanding of an *opponent* requires far more than collecting and compiling intelligence reports.
- Matters known only by closely observing future history during execution of the *strategy*. Most major *strategy* efforts take place over extended time periods. What you learn early is useful in improving your performance later. In Vietnam and Iraq, rotation of personnel and units facilitated the formal transfer of combat lessons to be learned. Full exploitation of this opportunity requires dedicated and focused observation of equipment and techniques. A good *strategy* designs and funds such efforts.

> **Note** For additional information about the *knowledge base* and how to improve it, see "Improving the Knowledge Base" on page 78 in Chapter 5.

Your Execution Team Can Be Inadequate

The *Execution Staff* role in team building is discussed in Chapter 12, "Building an Execution Team." The continuing role of the *Execution Staff* in monitoring the performance of the *Execution Team*, reporting progress in *strategy* execution, and devising adjustments is covered in Chapter 13, "Measuring and Reporting Progress."

The appointed *Execution Team* has some array of capabilities, competences, and limitations. It is likely that the *Development Staff* did not have complete knowledge of these matters, or did not thoroughly evaluate the ability of the actual *Execution Team* to carry out the *actions* called for in the *strategy*.

If the *Execution Team* is not able to carry out the execution task in a satisfactory manner, the *Execution Staff* has a major problem. Usually, the *Execution Staff* does not have any real authority to make changes. Its authority is usually limited to an oversight and reporting role. To get any meaningful change, it takes a concerted effort by one or more serious *Stakeholders* who have real change authority and control of resources.

> **Note** For an example of an *Execution Team* failure, see "Our Failed Immigration Reform of 1986" on page 42 in Chapter 3.

Your Support Base Can Be Inadequate

One attribute of a good *strategy* is that it does more with fewer resources. On the other hand, staffs need to be wary of those who would pressure the *support base* so low as to cause the likely failure of the *strategy* during execution.

The following three types of staff *actions* can mitigate this ever-present problem:

- Good, unbiased estimates of resources based on real, historical data at the outset
- Accurate tracking to compare resource consumption with predictions
- Approved off-setting *actions* and backup plans to adjust resources as problems are foreseen

> **Note** For information about off-setting *actions*, see "Off-Setting Actions for Weaknesses in the Support Base" on page 81 in Chapter 5.

How to Find, Recruit, and Use Expert Help

When assigned to work on a *strategy* project, most staff members feel very much at sea and more than a little bit overwhelmed. They want more and better insight about *strategy*. They want more and deeper domain expertise about the subject.

How to Find Expert Help

Most large organizations have top-level advisors or advisory boards. Even though the current advisors may not have expertise in developing a *strategy* or expertise in the subject domain of the *strategy* effort at hand, they are likely to know people, or know of people, who do.

Another source of expert help is other staff persons not in this cadre but belonging to your organization or a sister organization. This source has the advantage of leading you to experts knowledgeable about your organization who are proven as practical and useful experts.

Yet another source of expert help is non-governmental organizations and quasi-governmental organizations interested and knowledgeable in the same knowledge domain as your assigned *strategy*. However, these organizations may want contractual support.

> **Important** Be aware that these organizations may want publication permission in exchange for their contributions. Before the onset of work, establish some understandings.

Questions to Ask Prospective Experts

You can expect outside experts to have strong opinions simply because they have spent time in their field. With this in mind, you need to pick experts who, nevertheless, you can direct to work on your project. Make sure to clarify in advance with prospective candidates that you are in charge.

When you interview candidates, first ask them some general questions about their qualifications:

- How did they become knowledgeable in their field?
- How long have they been considered expert in their field?
- How would they describe their field?
- Have they helped other *strategy* developments? If so, how did they do that work?
- Who knows about their work?
- How do they envision working with you on your project?

Then ask candidates the following questions about your work to find out how their experiences and perspectives apply:

- What is their general perspective on your *strategy* effort?
- Do they understand your tentative *end-point objective*?
- Do they believe it is a worthy *objective*?
- Is it a practical *objective* in their view? If not, why not?
- Do they know of prior efforts along the same lines? Were they successful? What actually happened?

If all has gone well, invite prospective candidates to ask you about your work. Be sure that you have received clear guidance about what you can and cannot reveal about your work.

> **Important** One critical item you and the candidates must clarify is exactly what part of your tentative *strategy* you want the candidate to help on and what you believe the candidate can do to assist you.

Strategic Thinker

For the most part, a **strategic thinker** is born, not made. Strategic thinkers are in short supply. Fortunately, strategic thinking is a talent you can readily discern and transfer from project to project. Moreover, it is a talent you can hone and increase in scope through exercise—not unlike music, art, and athletics.

Like talent in these other fields, the truly good practitioners of strategic thinking develop a reputation. So asking candidates to name people who know their work, which we did in our first set of interview questions, is legitimate.

> **Important** One warning. A talented strategic thinker often comes with an abundance of charisma, and the insights proffered sometimes carry undue excitement and weight. Putting this rare talent to purposeful use requires steadiness and cool-headed evaluations.

Domain Expert

Devising a *strategy* is always about selecting and evaluating *actions* in a particular *field of action* in pursuit of a particular *end-point objective*. That is, all effort of *strategy* development rests on a particular domain of knowledge. A **domain expert** is a specialist who has current knowledge about the domain and its history and who understands the domain inside out.

Accordingly, the *Development Staff* must become familiar with this domain knowledge. The staff must find, evaluate, and recruit a sufficient set of domain experts to augment and support the assigned staff cadre. The staff cadre's job is to work with these domain experts to learn enough to fashion a good *strategy*.

Like strategic thinkers, domain experts generally have charisma, speak in paragraphs, and convey their expertise in language intended to shape the *strategy* development. Do not debate them. Just listen carefully and get about developing a good *strategy* to pursue your own *end-point objective*.

Domain experts are not perfect. In fact, their "expert wisdom" can lead you astray; they can convince you not to pay attention to events that really deserve attention. The rare **Black Swan** is a case in point. *Black Swans* are *Black Swans* because our experts declare these rare events so unlikely that we really do not need to worry about them. When, in truth, they do happen and we need to worry enough to not let *Black Swans* make too much of a mess.

Watch Out for Black Swans

» *Black Swans* are very improbable events that actually happen.

» Many *Black Swans* have grave consequences or great upsides.

» Experts often ignore *Black Swans* because they are rare.

» Preparing for *Black Swans* is often inexpensive.

» A good *strategy* prepares for *Black Swans*.

» Read *The Black Swan*, by N. N. Taleb (see Appendix A).

Box 6. A Good Strategy Prepares for Black Swans

Applying Strategic Insights to Strategy Actions

With due respect for the important role of domain expertise, some tried and true strategic insights and *actions* have wide applicability. A few of these are described in the next box. The descriptions are general in nature—not all types of *strategy actions* are applicable to all domains. Many important details, of course, depend upon the domain of interest.

Useful Types of Strategy Actions

- *Actions* that improve the *knowledge base* or *support base*.
- *Actions* that garner wider, deeper support for the *strategy*.
- *Actions* that create multiple opportunities for future *actions* in response to unfolding events.
- *Actions* that block certain injurious *actions* of your *opponents*.
- *Actions* that create a competitive advantage for you.
- *Actions* that reduce your future costs or future risks.
- *Actions* that impose future costs or risks on your *opponent.*

Box 7. Useful Types of Strategy Actions

If these *strategy actions* make sense to you, chances are good that you are a strategic thinker. If you can add to the list, you most definitely are a strategic thinker. And if you want to hone your skills in strategic thinking, apply the next procedure to a task at hand (an *end-point objective*), see how the procedure works, and keep practicing the technique.

To think strategically

1. List everything that gets in the way of achieving the *end-point objective*.
2. Find out if anyone has ever tried to achieve this *end-point objective*.

   If yes, find out what went wrong and what went right in each case.
   or

   If no, go to step 3.
3. List the resources available to you, including your *support base*, *knowledge base*, and funds.
4. Identify the urgency of achieving the *end-point objective* and consider the potential funding available. Do you have $1M to reach the *objective* in one year, $10M to reach it in five years, $100B to reach it in 10 years, or?
5. Depending on the urgency and funding, consider different *actions* required to achieve the *end-point objective*.
6. Now determine how important it is to achieve this *end-point objective*. Does anyone care?

> **Note** You might ask, why not start with step 6? At the start, someone believes the *end-point objective* is important. Only by doing the research outlined here can you really know the ramifications and likely response.

General Characteristics of Good and Bad Strategies

To return your attention to the top level of our effort, we give you some characteristics of good *strategies* and some characteristics of several types of bad *strategies*—incomplete, risky, and unattractive *strategies.* Unfortunately, *strategies* can be bad in a lot of different ways. Chapter 3 contains a number of historic and generic examples to illustrate these characteristics.

Characteristics of a Good Strategy

A *strategy* is good if it promises to get to the *end-point objective* in a reasonable time, with a reasonable amount of effort and resources, and with a reasonable likelihood of success. The *actions* of the *strategy* must start from current circumstances and operate within the designated *field of action*. The *actions* must be adjustable, in a timely manner, to changes in the *field of action* and to the *actions* of *opponents* as their *actions* emerge.

Characteristics of a Bad Strategy

We always strive for a good *strategy* and try to optimize our chances for achieving a good *strategy*, but a bad *strategy* happens all too often. Three of the more painful types of bad *strategies* are *strategies* that are incomplete, risky, and unattractive.

If we recognize the characteristics of bad *strategies* early in the process of designing a *strategy*, we can deal with them, mitigate their negative effects, and increase the odds of avoiding failure modes so that we can get back on track to a good *strategy*. The next table outlines the characteristics of bad *strategies* important to recognize and address as soon as possible.

Table 5. Characteristics of Incomplete, Risky, and Unattractive Strategies

Characteristics of an Incomplete Strategy	Initial *actions* do not start from current circumstances.
	Constraints not respected; *actions* to mitigate not specified.
	Obstacles wished away or not adequately addressed.
	Likely costs and schedules too vague, unsuitable, or both.
	Adequate support not yet in place.
Characteristics of a Risky Strategy	Relies upon uncertain specifics of the *knowledge base.*
	Relies upon timely response to the *actions* of *opponents*.
	Uses *strategy* techniques to compensate for a low *support base.*
	Relies upon *actions* not yet proven in practice.
Characteristics of an Unattractive Strategy	Uses a lot of resources before critical unknowns are resolved.
	Burdens *Stakeholders*, without commensurate benefits.
	Creates difficult public relations issues.
	Effectiveness requires major cultural changes.

Testing a Strategy for Robustness

Everyone wants a robust *strategy*, but robust against what? A **robust strategy** is a *strategy* robust against a wide range of *opponent's* counter-actions. A **counter-action** is a targeted *action* intended to directly thwart an *action* by your *opponent*.

During the formulation of a *strategy*, we cannot foretell in any detail the successive, reciprocal, and responsive *counter-actions* that may occur during execution of the *strategy*. However, we must take the inevitability of these *actions* into account.

It is desirable to design a *strategy* robust to a wide range of *opponent's counter-actions*. A robust *strategy* has the following general characteristics:

- Even if our *opponent* takes the most effective *actions* against us, we can continue to execute our *strategy* along the planned network of *actions*. That is, our overall strategic plan is robust.
- The actual impact of our *opponent's counter-actions* lie within our own capabilities to continue. That is, our material equipment, procedures, and workforce are robust.

Important Proving robustness to all matters is very difficult. In practice, you can describe what particulars have been tested and report on the degree of robustness found for each matter of consequence.

When designing a robust *strategy*, consider *Black Swans*. You may also want to consider game theory or any applicable concepts of game theory.

Note For the key points about *Black Swans,* see Box 6 on page 33. For ways to apply game theory, see "Using Some Concepts from Game Theory" in the next section.

Some Useful Techniques in Constructing a Strategy

In this section, we introduce two useful techniques in constructing a *strategy*:

- Working backwards
- Using some concepts from game theory

This short treatment is just a prelude to the more detailed examination of these and other techniques in "Generic Strategy Types with Applications and Pitfalls" on pages 53-61 in Chapter 3.

Working Backwards

In many cases, a large number of apparently promising *proximate objectives* are available, and even a large number of *intermediate objectives*. Sorting through all combinations of *action* networks is very difficult. One very powerful technique to address this challenge is working backwards.

First identify one *intermediate objective* from which you can see a clear, *single action* to the *end-point objective*. Then look for one or two promising *actions* to get to that *intermediate objective*. Continue to work backwards in this fashion to your starting circumstance—the *starting point*.

You might still get tangled up and have to start over, again working backwards but pursuing different choices near the *end-point objective*. This technique, called dynamic programming by mathematicians, often results in a great simplification of effort. Moreover, it provides clarity in explaining why your final *strategy* is good, or at least better than some other *strategies*.

Using Some Concepts from Game Theory

The general purpose of **game theory** is to provide a rationale for choosing your own *action* when you do not know what *action* your *opponent* is going to take. You may know that a large body of mathematical analyses is associated with game theory. In *strategy* work, we need only the concepts of game theory—not the mathematics. In *strategy* work, unlike most game theory applications, your goal is to invent and choose sets of *actions* when constructing your *strategy* to bolster the upside opportunities and guard against the downside risks.

The first step in this technique is to make a list of **potential actions** you can take at a particular juncture and a corresponding list of **potential futures**. We include in potential futures the random events in the operating environment and the deliberate *actions* of *antagonists* and *competitors*.

> **Important** In deciding how broad a range of potential futures to consider in game theory analysis, you have two opposing considerations. If the range is too narrow, you run the risk of overlooking a future *action* by your *opponent* that undercuts your *strategy*. If the range is too broad, you run the risk of getting bogged down in paralysis by endless analysis.

The second step is to evaluate (as best you can) the outcome for each pair of potential *actions* on your part and potential futures against you. By inspecting this array, you can discover the major upside opportunities and the major downside risks.

What to do next is complex. We treat this in Chapter 3 as we look at pairs of *actions* and game theory applications in "Using Game Theory Concepts to Assess a Range of Alternatives" on page 58. We add to the mix in Chapter 9 by analyzing and improving a *strategy* in "Analyze at the Action Level Using Game Theory Concepts" on page 103.

Summing Up and Looking Ahead

A really good *strategy* is a creative matter. As such, the decisions by principals carry a great burden to be both creative and correct.

We recognize that this chapter focuses on the methodical staff work required in *strategy* design, development, approval, and execution. But the fundamental value of this staff work relies upon the creative aspects each person brings to the process.

Unfortunately, we can trace many failures in conception and execution of otherwise good *strategies* to mistakes in the details of the *strategy* design and execution. The bulk of this manual focuses on these sources of failure to help staff persons avoid common failure modes well known to able practitioners.

In Chapter 3, we present several examples of *strategies* used in the past and some examples of generic *strategies*. This helps illustrate the advantages and pitfalls of various approaches.

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Chapter 3
Mostly Examples—Historic and Generic

This chapter begins with many examples of historic *strategies* drawn from scores of real-life experiences going back to the 1940s and WWII. The second half of the chapter categorizes and describes many types of generic *strategies* and presents their useful applications and their pitfalls.

> **Note** For a glimpse of our generic *strategy* categories, see "Generic Strategy Types with Applications and Pitfalls" starting on page 53.

Application to the Military and to Other Domains

Mixed in with the older historic, military examples of *strategies* are more contemporary *strategies*, some of which move out of the military realm. Because this manual has wide application to many fields and every-day life, we try to balance out the military and historic examples with examples from other domains.

As mentioned in Chapter 1, this manual is based on many years of the authorship's first-hand experience in *strategy* design, development, approval, and execution. The techniques for success and the pitfalls to avoid described in the examples cover a wide range of situations and organizations, including:

- The quandary of a young person facing college and career choices
- Our failed immigration reform of 1986
- Ballistic missile and space races of the 1950s
- The revolution in realistic combat training of the 1970s
- Desert campaigns of the Afrika Korps and the British 8th Army in WWII
- Venture capital-backed technology firms in the 1990s
- The transformation of IBM by Gerstner in the 1990s
- Strategy Revision in Iraq in 2006-2007

Vignettes of Examples and Lessons To Be Learned

For each example, this chapter provides a vignette to describe the notable characteristics of the example and the lessons taken from the example. In the first example, we focus on the notable characteristics and go through the formulation of the *strategy* to a common problem, step by step. In the other examples, the vignette is much shorter and focuses on the lessons to be learned.

Facing College and Career Choices

A young person facing college and career choices is usually overwhelmed by opportunity. So many colleges and so many careers! At the same time, fears surface about the dismal prospects of attractive schools rejecting an application and if accepted, the inability to master the requirements for the attractive careers.

Here we have one of the classic problems of *strategy* building—too many real opportunities and too little knowledge of relevant facts. So how to start? In "Working Backwards" on page 36 in Chapter 2, we described one very promising technique. Start at the end, not at the beginning.

> **Tip** For more about this generic *strategy* type, see "Starting at the End-Point Objective and Working Backwards" on page 54.

The End-Point Objective

To start at the end, we need to describe the end. That is, we want to describe an *end-point objective* that captures the aspirations of this particular young person.

We need to ask the person a set of questions well beyond college and career, such as:

- What kind of lifestyle would you like to have?
- What kind of city or town would you like to live in?
- Do you want to marry and have children?
- Is family really important to you?
- Do you want challenging work?
- What else matters to you for fulfillment in your life?

Suppose the answers reveal the young person wants to live in a small town, wants a family, wants intellectual stimulation in the workplace, and wants the respect of the townspeople. Other wants are less important.

Answers to Questions Lead to Actions

One career that meets those criteria is family physician. All small towns need physicians. Unlike a hospital setting or a large city setting, it is likely that the small town setting provides ample flexibility for a family life, albeit with some interruptions for emergencies. All patients can have challenging health issues, so the stimulation criterion of challenging work is met. And family physicians are accorded respect (until proven otherwise), which meets another criterion.

Working backwards, we see the final *action* in reaching the *end-point objective* is the choice of town. This can wait. The critical last *action* to becoming a physician is getting board certified. How? Through a grueling medical school, an internship with 24-hour days, and a residency program that seems like it never ends. We are now faced with the unknown as to whether the young person has the specific smarts and the specific stamina to get through these requirements.

Domain Experts Identify Potential Obstacles

Of course you never really know until a person tries it for real. The young person can explore a few aspects of the requirements in just a few months and a little cost. Some simple inquiry to a few domain experts—practicing physicians—reveals some key potential *obstacles*.

The three *obstacles* are organic chemistry, memorization required in medical school, and ability to perform effectively after 24 hours of intense and stressful work. These *obstacles* are potential because they may or may not apply to this particular young person. We need to find out.

Testing Obstacles while Building a Knowledge Base

Many prospective physicians flunk out of pre-med, never even getting into medical school, because they just cannot master organic chemistry. Some otherwise smart people cannot wrap their head around that subject. What's a person to do? Buy or borrow a recent (the field changes pretty fast) organic chemistry book and see if learning the subject is feasible.

Many prospective physicians flunk out of medical school because they cannot master the tremendous amount of memorization of body parts, system functions, diseases and their symptoms, and the good and bad aspects of treatments. Again, it would take only a few months and a few tens of dollars to work through some medical textbooks to test memorization skill.

A way to explore the issue of performing at peak effectiveness at the end of a 24-hour, emergency-filled day is to take emergency technician training and work at that trade for a year or so. This takes a lot more time and resources than testing the other two *obstacles*, but it is a lower hurdle than going to medical school and finding out during internship that these demanding situations are too much to handle!

Note that we focus on building the *knowledge base* early and at low cost in terms of dollars, effort, and schedule. But suppose these simple early tests are passed and the young person gets into medical school—and then decides, on whatever bases, that a physician career is no longer attractive. What can we offer as an **off-ramp** or backup plan?

> **Note** For details about two types of *off-ramps*, see "Using Off-Ramps for Major Changes in Circumstances" on page 129 in Chapter 14.

Off-Ramps and Backup Plans

For many people, dentistry is a satisfactory *off-ramp*. The medical school education is reasonably transferable to dental school. The small town setting remains feasible and family flexibility probably increases with this career. The medical aspects could be considered less challenging, but the challenges are adequate for most people.

Another *off-ramp*, especially if the organic chemistry and memorization tests were serious *obstacles*, would be accounting. Small towns need accountants and the remuneration is almost as good as for small town medicine. Because physicians and dentists actually run a small business, it is best for the young person to include accounting and related business skills in college to cover necessary *off-ramp* preparation.

Steps to a Good Strategy

And here we have a good *strategy*, built step by step backwards from the *end-point objective*.

To build a good strategy backwards from the end-point objective

1. Ask questions to clarify the *end-point objective*.
2. Identify one or more solutions that fit the *end-point objective*.
3. Identify the last *action* required to reach the *end-point objective*.
4. Keep going backwards, step by step, until the *starting point* is in sight.
5. Find domain experts to point out C&O Items along the way.
6. Find cost-effective, timely ways for testing the ability to overcome C&O Items.
7. Identify *off-ramps* and backup plans and then take reasonable preparatory steps to execute these plans smoothly in case they are necessary.

> **Note** Nowhere have we had to deal with the enormous range of opportunities faced by looking forward from the *starting point*.

The network of *actions* unfolded directly. Domain experts, consulted for only a few key issues, were crucial in pointing out three attributes required to become a physician. Suitable *off-ramps* were identified in case of trouble or a change in career preference.

Other Issues Fall into Place

What about the vexing choice of college? Not critical. Many colleges with a commitment to a solid pre-med curriculum are available.

And the competition for medical school? The preparatory work to resolve unknowns is a strong competitive advantage.

And the choice of career location? Not critical. Career preparation time provides many years to choose a town.

And the choice of internship and residency? Not critical for family practice. Any decent program will do.

Lessons To Be Learned

Working backwards from a sound *end-point objective* can greatly simplify the process of designing a *strategy*. This is especially true when you have many equally plausible *proximate objectives* and many equally plausible *intermediate objectives*.

Our Failed Immigration Reform of 1986

In 1986, the Congress passed and the President signed legislation intended to remedy a growing problem of illegal immigration into the U.S. The main targets were persons slipping over the more or less open southern border to find more work, at better wages, than in their home country.

Components of the Strategy

From a *strategy* point of view, the legislation had two components. First, the legislation provided for more security and law enforcement at regular border crossings and some increase in patrols along the open border. Second, and more important, the legislation made it illegal for employers inside the U.S. to hire illegal immigrants.

Both components aimed at discouraging the act of illegal immigration. The growth in the Mexican economy at that time, plus the discouragement provisions of the legislation, were hailed as proof of a real and effective *strategy*.

What happened? Over the next 20 years, the number of illegal immigrants crossing the border soared and the number of illegal immigrants resident in the U.S. rose from a few hundred thousand to well over ten million. By all accounts, the *strategy* failed.

Causes of Failure

How did the *strategy* fail? It failed in large part as a matter of flawed execution. The *strategy* design at the top level was pretty good. But several flaws in detail became quite clear as execution proceeded.

A key element was making the employer responsible for determining if the job applicants were legal residents. However, the legislation did not provide either financial incentives or technical assistance to the employers to enable them to carry out that duty. Moreover, the employers had ample economic incentives to simply ignore their duty—hire workers at lower wages or avoid the effort and expense of legal employment practices, for example.

Remember, 1986 was a time of no internet and precious few personal computers. Employers were told to "examine the applicant's papers." But the employers had no training and many types of documents were deemed adequate. Forged documents became a cottage industry. Who could be sure of the adequacy of the documents?

Furthermore, many employers of migrant workers, legal or not, were farmers with no office or staff. These farmers were not inclined to care much for government intrusion into their lives. Massive civil disobedience by employers then followed.

A Foreboding Suspicion

Because the impracticality of the arrangement was evident to all thoughtful observers, a growing suspicion evolved. People thought the legislation was not serious—that Congress passed it just to appease a few over-zealous protectionist agitators.

Lessons To Be Learned

A good, complete *strategy* makes adequate provisions, including training and financial resources, for execution activities. If the general public is to play an active role in the execution of the *strategy*, the incentives and penalties need to be relevant in the culture of those public members directly involved in the execution.

Ballistic Missile and Space Races of the 1950s

As what became known as the Cold War was ramping up in the 1950s, both the Soviet Union and the U.S. engaged each other in technical-industrial contests to demonstrate national prowess in intercontinental nuclear-armed missiles and in space technology. In 1957, when the Soviets orbited Sputnik—the first artificial satellite—around the earth, the U.S. public was stunned and electrified into a major reaction.

But even before Sputnik, many leaders in government and science had begun major efforts to win the missile and space races. Several interesting *strategies* were devised to guide those efforts.

The Air Force Program

Within the U.S. Air Force, then Brigadier General Bernard Schriever was appointed commander of a totally new organization called the Western Development Division. The organization had a wide charter that reported to the Secretary of the Air Force through an unusual committee called the Teapot Committee. The committee was composed of widely respected, senior persons drawn from academic and scientific circles, mostly outside of government.

All people involved in the Western Development Division carried three passions:

- The U.S. was engaged in a desperate race to stay ahead of the Soviet Union in high technology for economic, political, and military value.
- Two related technologies—ICBMs and space—were ripe for exploitation at the time.
- The new field of systems engineering offered great promise to design and direct programs in these fields to useful ends, in record time, and at affordable costs.

Goals were set, *strategies* were designed to pursue the goals, and organizations for execution were invented. Lots of novelty abounded.

But as for rules and regulations, every effort was made to use the existing ones if at all possible. Why? Because the driver for *strategy* in this case was speed of delivering products, both missiles and satellites. Using existing procedures avoided time-consuming bureaucratic wrangling. Those few matters that remained difficult were handled with a deft combination of waivers, forgetfulness, and evasiveness.

The *Execution Team*, to use the nomenclature of this manual, was headed by a new company that practiced the new technique of Systems Engineering and Technical Direction (SETD). The pioneers of this technique at Hughes Aircraft, Si Ramo and Bill Wooldridge, agreed to head the new company named for them—the Ramo-Wooldridge Corporation. The role of the new company was formally called SETD.

Systems engineering is now widely practiced. Its original form seeks to organize the engineering design and development process to use the very brightest talent to the most productive ends.

The addition of technical direction was entirely innovative. It allowed the most talented engineers in the lead agency to act as individual mentors to the younger, less experienced engineers in the larger aerospace firms.

Because the design and development of both missiles and spacecraft was a hitherto unpracticed craft, and because of the national level urgency of the program, this overlap of talent, direction, and responsibility was both necessary and tolerable.

The Air Force's Western Development Division program offered other innovations of *strategy:*

- Subsystems were routinely developed by three independent vendors in order to have higher assurance of timely availability of at least one subsystem that provided the desired performance and reliability.
- Launch, tracking, and recovery facilities for missile testing were designed, produced, and paid for by the missile project concurrently with the design and development of the missile. This served to shorten development time by assuring the missile project had firm schedule control.
- Operational launch site design and construction as well as operational training and logistics preparations were conducted concurrently with missile design and development. The occasional refit due to program changes was tolerable in the drive to meet the earliest possible operational readiness date. The SETD arrangement facilitated early warning of possible refit work.
- The overall *strategy* was to design and build a series of missiles, each with improved performance (by various measures, both technical and operational) and to adapt these missiles both to the ICBM and the space launch mission.

The program, often called **concurrency**, was remarkably successful. Development schedules of four years became routine, costs were reasonably well managed, and performance increased steadily with each new design.

Note The recent book by Neil Sheehan, *A Fiery Peace in a Cold War*, details the life of Bernard Schriever and the ICBM Program. For information about this book and other works, see Appendix A.

Objections to the Air Force Program

In spite of its successes, the innovative Air Force program also experienced strong objections:

- The airplane culture of the pilot-dominated Air Force was deeply troubled by the program and took decades to accept the program as a legitimate part of the Air Force. The cultural rejection continues to surface even now in minor and major ways.
- The resource control community did not accept the streamlined reporting to the top of the Air Force. This was only resolved by an end-run around all of the Air Force to President Eisenhower, aided and abetted by the Teapot Committee and several U.S. Senators in their role as *Stakeholders*. After Eisenhower became the *de facto Approval Authority*, much of the obstructionism subsided.
- The major aerospace companies did not accept the SETD role of the Ramo-Wooldridge Corporation, which they felt put the company very much in the place of the government. Eventually, legislation ruled that SETD was not an acceptable arrangement for a contractor. Only government employees could perform essential government activities.

The Navy Ballistic Missile Program

Within the U.S. Navy, a completely new organization was formed as well. It was called Special Projects or SP for short. The SP had a number of unusual features:

- It was substantially isolated from the Navy shipbuilding organizations and reported rather directly to the Secretary of the Navy.
- The senior naval officers assigned to SP were expected to remain with the program for many years, typically until retirement.
- The junior naval officers were given a special assignment to encourage candid reporting of progress, as discussed in "Using Parallel Reporting Channels," on page 124 in Chapter 13.
- The prime contractor for the system (submarine plus missiles) was responsible for technical performance through sea trials and through operational deployment.
- The program had its own research and development budget, to include early stage investigations as well as hardware development.

Overall, the program expected to have superb personnel working under very favorable conditions.

Lessons To Be Learned

In both the Air Force and Navy programs, success was achieved by the following:

- Very disciplined attention to well-defined *end-point objectives* that included emphasis on achieving useful operational capability at the earliest practical time and achieving steady improvements over time through new missile technologies, design, and development.
- Very innovative use of existing agencies, new organizations, and novel management concepts to meet demanding schedules in a new technology arena.
- Very concurrent supporting activities in facilities and training along with concurrent developments of risky subsystems and technology.
- Sustained support by *Approval Authorities* and *Stakeholders* with prestige and clout.
- Very talented and committed personnel.

The Revolution in Realistic Combat Training of the 1970s

During the Vietnam conflict in the 1960s and 1970s, a number of disappointments occurred in the conduct of air operations. Among those was performance in air-to-air combat.

The Navy technical community was particularly troubled that its air-to-air missiles had much less success in actual combat than in their extensive test programs at home. At first the investigation into causes focused on technical matters.

Shifting Attention to the Entire Kill Chain

But when the Navy's most advanced fighter, the F-4, began losing more often than it won dogfights with North Vietnamese MiGs, the Chief of Naval

Operations demanded action. Navy Captain Frank Ault was tasked to find out what was going wrong and make recommendations to improve Navy air-to-air performance. Ault and his team examined the entire kill chain, starting at the factories that produced the missiles and ending with the training of the aircrews who were employing them against North Vietnamese MiGs.

His basic finding was that just about everything that could go wrong had, and his report made some 242 recommendations for improvements. Ault's two most consequential recommendations were to establish an advanced course in air-to-air combat for Navy fighter crews and to develop an instrumented range to track and record aircraft, targets, and firing parameters with adequate precision in three dimensions.

When the air war over North Vietnam resumed in May 1972, Navy F-4 crews posted a 12-to-1 kill/loss exchange ratio compared with 1-to-2 during late 1967 and early 1968. The majority of this improvement was credited to the Navy's realistic, dissimilar air-to-air training program initiated in October 1968 and popularized in the 1986 movie *Top Gun*.

Creating Innovative Training Programs

Key elements of the Navy's Top Gun program were experienced instructors who could objectively reconstruct what had actually happened during practice engagements and the use of opposing fighters that simulated North Vietnamese MiG-17s and MiG-21s rather than the Navy's larger, poorer turning F-4s.

Later, when the first instrumented air-to-air ranges became available, they provided the ability to review and replay mock engagements from any vantage point. No longer could aircrews claim they had fired a missile within parameters when they had actually fired outside the missile's envelope.

Outside pundits pushed the Air Force to adopt a similar training program. However, the Air Force had tried something similar several years earlier and had a bad experience. The pilots did not think they were learning much and several fatal air-to-air collisions cast a pall on the whole affair.

Around 1974, a maverick major—Richard "Moody" Suter by name—offered a most interesting analysis of Air Force combat losses over the whole Vietnam War. Suter found that by far, most of the combat losses occurred during one of the pilot's first 10 combat missions. Moreover, anecdotal information often pointed to "dumb" mistakes as contributing factors.

So Major Suter prepared a presentation that proposed a training program with highly instrumented aircraft and "cyber" missiles for safety along with detailed displays of the flying events. But the key to the presentation was the stated *objective*—to let the losses during the first 10 missions, those due mainly to "dumb" mistakes, be "cyber" losses.

Identifying a Concrete, Attractive Objective for Success

This clear statement of the *objective* caught the attention of all involved. It took a nebulous goal—train better fighter pilots—and turned it into a concrete, unassailably attractive *objective:*

> Avoid the early losses due to "dumb" mistakes.

Based on this *objective*, the Air Force Fighter Weapons School near Las Vegas, Nevada developed a whole range of combat-oriented training programs. When you go to the school today, a huge billboard greets you with a full-color image of Major "Moody" Suter and grand text thanking him for his insight and perseverance.

The Success of the Army Program

Later, the U.S. Army picked up the ideas and built their instrumented training facility in the western desert—the National Training Center. It was large enough to conduct instrumented field exercises with up to brigade-sized units. The center is widely credited for its major contribution to the success of the Army's demonstrated combat performance in the two recent combat interventions in Iraq.

> **Note** For a review of these training programs and their relationship to competence in *strategy* matters, see the book by Barry Watts referenced in Appendix A, *US Combat Training, Operational Art, and Strategic Competence: Problems and Opportunities*.

Lessons To Be Learned

The main lessons to be learned about the revolution in combat training experiences of the 1970s are the following:

- Quantitative data taken under operational conditions is invaluable for *Execution Teams* in assessing the value of *strategies*, the degree to which they are faithfully executed, and the adequacy of training programs.
- The selection of an appealing *end-point objective*, with a clear connection to prior values, can be a major contributor to the overall support for a *strategy*.

Desert Campaigns of the Afrika Korps and the British 8th Army in WWII

A single desert road stretches many miles from Tunis, Tunisia to Cairo, Egypt. During WWII, this desert road was the site of a series of fascinating advances, battles, and *strategic* retreats from one end to the other and to the other end and back again.

Before WWII, the Italian government had steadily occupied much of Northern Africa save Egypt. Early in the war, Germany, then allied with Italy, deployed to North Africa a large, specialized land force—the Afrika Korps—under command of the highly regarded General Erwin Rommel. Britain, which had controlled the territory of Egypt since WWI, had deployed a considerable land force around Cairo under command of the less well-regarded General Montgomery.

In this event, both sides made the same mistake. After the first battle, the loser retreated in good order, several hundred miles within proximity to his supply base. The winner, then operating at the limit of his supply line, was unable to continue on for a full victory. The loser, after a decent rest, mounted a full-scale counter-attack on the weakened winner. This attack drove the winner of the first battle into a major retreat, past the site of the first battle and all the way back within proximity of his supply base.

And then the roles were reversed and the same thing happened again! Back and forth, until Rommel was recalled to Berlin for encouragement of the plan to kill Hitler among other reasons.

Lessons To Be Learned

The general lesson for *strategy* execution is this. With the last push toward final success to achieve the *end-point objective*, an overwhelming tendency to go too far occurs all too often. This results in a slip into a much less favorable situation than intended or necessary.

It is relatively easy to see the application of the general lesson in the "war of the desert road." It is harder to see, but just as real, in many *strategy* execution cases. Luttwak covers this tendency, which he calls a "paradox of strategy," in great depth in his book, *Strategy: The Logic of War and Peace.*

> **Note** For the reference to *Strategy: The Logic of War and Peace* by Edward N. Luttwak, see Appendix A.

Venture Capital-Backed Technology Firms in the 1990s

The venture capital form of equity financing of new companies got its start shortly after WWII, in large measure due to the abundance of new technologies, primarily in electronics, coming out of the war effort. Very few of these new technologies had yet been applied to the civilian marketplace. Many had seen only a fraction of their potential used in military applications.

When looking at the application of these new technologies as a *strategic* challenge, some notable *obstacles* were evident:

- The applications might not work technically.
- The marketplace was not yet established.
- The customer base was not yet identified.

Again looking at the *strategic* challenge, the application of these new technologies also had some notable *constraints:*

- The applications typically needed five to seven years to mature.
- The investors typically needed a cash return in about 10 years.
- The investment managers needed yearly fees and the prospect of large returns if their management decisions turned out favorably for the investors.

A solution that was quite successful for venture capital-backed technology firms in the 1990s goes as follows:

1. Populate the investment management team with a few rare individuals who have both entrepreneurial and scientific acumen.
2. Raise capital in the form of limited partnerships with a 10-year duration, where each fund is financially independent of all others. And then raise a new, larger fund every three to four years.
3. Make the size of each fund big enough to take a position in 20 to 30 companies.
4. Choose the companies to have about one-third of them in each of three promising technology fields.

5. Choose about one-third of the companies as true start-up firms, one-third with about three years of success, and one-third about three years from a liquidity event, such as an initial public offering or purchase by a big company.
6. As each fund becomes more liquid, split the returning capital between the management team and the investors.

Lessons To Be Learned

Students of modern finance recognize these arrangements as coming from the theory of diversified portfolios. The overall return is the sum of all the individual returns. The individual returns are expected to be large (due to the talented managers) and uncorrelated (due to the spread across technologies and maturity), even though a few of the individual companies may fail utterly.

> **Tip** The theory of diversified portfolios is credited to Harry Markowitz, starting with his paper, "Portfolio Selection," *The Journal of Finance*, March 1952, on pages 77-91. He received the Nobel Prize for this work in 1990. For details, see the reference in Appendix A.

Transformation of IBM by Gerstner in the 1990s

In early 1993, Louis V. Gerstner, Jr. accepted the position of Chief Executive Officer (CEO) of the IBM Corporation. He found himself in charge of a very large company failing fast from a great and prosperous past. All of the financial and business press, and many of Gerstner's friends and advisors, gave him two pieces of advice—do not accept the job and, if you do, break up the company and exit as soon as you can.

Gerstner did neither. But he did two remarkable things. First, he changed the strategic concept of IBM:

- From a company that sold proprietary computer and communication equipment
- To a company that sold computer services (middleware, principally) to end-user companies no matter what brand of computers and communication equipment they used

Second, Gerstner changed the culture of the company from inward looking at IBM to outward looking at the customers. In the process, IBM continued to make money. It took Gerstner almost 10 years of hard, personal effort. He had not anticipated so much resistance. In the year after he left IBM, Gerstner wrote the whole story.

> **Note** For information about Gerstner's book, *Who Says Elephants Can't Dance?*, see Appendix A.

Gerstner gives only mild credit to his strategic choices. He gives the major credit to the dogged execution of the *strategy* and the personal effort he expended in almost daily efforts to achieve the change in IBM's culture.

Lessons To Be Learned

The main lessons to be learned about the transformation of IBM by Gerstner are the following:

- *Strategy* that amounts to anything requires execution.
- Execution is hard, very hard, and takes every-day attention by the CEO.
- Execution is even harder when the ingrained, dysfunctional culture of the organization needs to be changed.

Strategy Revision in Iraq in 2006-2007

Following the U.S.-led Coalition's armed intervention into Iraq in early 2003, there was a great deal of satisfaction that the military aspects of the intervention had been successful. However, as the months moved on into 2004 and 2005, a number of observers—both in and out of government—began to lose confidence in the progress toward the stated twin goals of forming a democratic Iraqi government and demilitarizing Iraq, especially its purported program in weapons of mass destruction (WMD).

Tip For a careful and illuminating treatment of this whole revision of *strategy* in Iraq, see Kilcullen's, *The Accidental Guerrilla: Fighting Small Wars in the Midst of a Big One*, in Appendix A.

There were many aspects to the revision, as there are in such real-life matters. And many of the revisions are still debated and being tested. For our purpose here, we examine only one. It was noted by many critics that contrary to well-known approaches to counter-insurgency, the goals of the Coalition *strategy* did not provide very much emphasis on bringing safety and security to the Iraqi people.

In the language of this manual, the chosen *end-point objective* was too narrow—it did not include a serious effort at providing for the civil population. For example, it did not provide for a serious effort at rebuilding essential services, such as water and electricity. It did not provide jobs for the veterans of the pre-intervention Iraqi military that was disbanded. These omissions were remedied, at least in large part, in the *strategy* revision during 2006-2007.

Of course, most of the press attention focused on the "surge" in U.S. combat forces, not the revision of *objectives*. A lot of other fortuitous things happened concurrently and by 2008, the situation was much improved.

Note For a fuller account of the development of the original *strategy* in 2002-2003, see Appendix D.

Lessons To Be Learned

The choice of the *end-point objective* is ever so complex. Questions abound: how narrow, how broad, what range of reactions is expected by all of the *Stakeholders*? (And yes, legitimate *Stakeholders* are within the *opponent's* camp, for many of them have the freedom to act effectively, in helpful or harmful ways.)

Focus on the Proximate Objective

Richard P. Rumelt is a widely respected business and management consultant. His work centers on improving the productivity and profitability of an ongoing business enterprise.

From long experience, Rumelt concluded that too often business leaders failed in their improvement efforts for one or both of these reasons:

- They asked their organization to do something its members did not know how to do—and to do it in one giant leap.
- They merely specified a goal without endorsing any plan of coordinated *actions* to make progress toward the goal. No credible likelihood was possible of achieving the goal.

In a studied reaction to his observation, Rumelt proposed a focus on a concept he named the *proximate objective*. For Rumelt, the *proximate objective* has two main characteristics:

- The *actions* required to achieve a *proximate objective* are within the competence of the existing workforce.
- The *proximate objective* has demonstrable value to the business.

Note For references to Rumelt's original writings about the *proximate objective*, see Appendix A.

In this *strategy* manual, we adopt Rumelt's concept and nomenclature of the *proximate objective*. We have, however, generalized his concept in Chapter 2 on pages 18-20 to include *intermediate objectives* and the *end-point objective*.

This generalization allows us to work on *strategy* applications of larger scale with adequate time and resources on the one hand and adequate impetus and reward on the other hand. We set the stage for pursuing a large network of coordinated *actions* toward successive *intermediate objectives*, leading to the achievement of a major *end-point objective*.

For ongoing businesses, such as Rumelt's client base, large networks of coordinated *actions* are often just not feasible. They can easily take too much management attention away from ongoing efforts to produce a product, deal with customers, and fend off *competitors*.

Lessons To Be Learned

The focus on *proximate objectives* is almost always useful and required. Using only *proximate objectives* is often sufficient for major improvements, if not the achievement of some desired *end-point objective*.

Focus On The Future

Clark A. Murdock is a respected business advisor who has also had a successful period as a futures planner for the U.S. Air Force. Murdock is completely convinced that companies do not have to "let the future happen to them." He tells companies they can "make their own future." Moreover, he has written a book that tells them how to do it.

Note For information about Mudock's book, *Future Making*, see Appendix A.

Users of this manual can find striking parallels between Murdock's ideas and nomenclature and those in this manual. In particular, Murdock's "future" is very much what we call an *end-point objective*.

But Murdock puts an important qualifier on the matter—your organization must get to that *end-point objective* in a timely manner. Get there too early and the marketplace may not be ready for you. Get there too late and others have already taken your place in the marketplace.

Murdock also was strong-minded in his belief that the CEO must take personal and daily *action* to make the desired future happen. In this, Murdock follows a main point in Gerstner's book about IBM.

Lessons To Be Learned

The main lessons to be learned about focusing on the future from Murdock's perspective are the following:

- Choosing and describing your *end-point objective* has a timeliness aspect you cannot ignore.
- The CEO, or other principal leader, must take personal and persistent *action* to make any *strategy* happen.

Generic Strategy Types with Applications and Pitfalls

It is useful at this point to describe a number of generic *strategy* types, identify some typical applications, and point out some inherent pitfalls. Many, many good *strategies* are variations and combinations of these generic types. And indeed, for a particular problem, more or less equally good *strategies* differ from one another in some aspects.

These general or generic *strategy* types augment the *strategy* examples from history presented earlier in this chapter. Our generic *strategy* types provide some criteria as you select a *strategy* to solve a particular problem. We group the *strategies* in this section based on the focus of the *strategy:*

- Single paths
- Multiple paths
- *Fields of action*
- Techniques applicable to all *strategies*

The criteria for the useful application of each generic *strategy* and the pitfalls of each *strategy* are given at the end of each *strategy's* description.

Strategies with Single Paths

Each of the *strategies* in this group involves a single path as you work toward your goal. Covered in this group are the following *strategies:*

- Starting at the *end-point objective* and working backwards
- Following a well-known path that worked for similar problems, but with due attention to modification to fit particulars of the current problem
- Using a plausible but un-tried path

Starting at the End-Point Objective and Working Backwards

The first example in this chapter addresses college and career choices. The *strategy* starts at the *end-point objective* and works backward to good advantage. In this case, the *end-point objective* (to live a particular life style) was determined with confidence. Starting from the beginning was a challenge, due to the many equally plausible first steps *(proximate objectives)* and even more plausible pathways forward. With so many possibilities, it is simply not practical to examine each and every path and then choose one path.

Working the problem backwards generally results in a straightforward solution. Of course, after finding one or a few feasible *strategy* solutions, you need to test those solutions with domain experts to see what C&O Items may lurk in the shadows. After learning about the C&O Items, the next step is to devise *actions* to deal with the difficulties of these C&O Items.

Table 6. Working Backwards: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
The *end-point objective* is known.	The *end-point objective* changes.
Many plausible *proximate objectives* exist.	*Obstacles* may block some *actions*.
Many plausible paths forward are identified.	*Constraints* may impede *actions*.

Following a Well-Known Path that Worked for Similar Problems

When you follow a well-known path that you know worked for a problem similar to the one you are trying to solve, this generic *strategy* type works well. For the path to work, however, the requirement is that your current problem really is essentially similar to problems that have yielded to this particular well-known path in the past. For most politico-military problems, the uniqueness of the situation pretty much rules out strict use of a well-known path.

Many business problems do fit this requirement, but it is relatively easy to be misled through inadequate investigation of the facts and sloppy analysis of the facts. The other main pitfall is the enormous effort required to actually change a business enterprise, even when the path to change is sound. Our example of Gerstner's turnaround of IBM is stark testimony to the difficulty.

Gerstner said that all business follows a known path—find out what customers need, how to supply what they need, and what price they will pay. Then see if you can arrange to satisfy those needs at the right price. If not, find another set of customers with different needs and try again.

It can also turn out that the well-known path requires more time, more resources, or particular resources not available. In this case, you must look to other generic *strategies* to mitigate your resource problem. These other *strategies* are almost always more risky. Such is the cost of being poor.

Table 7. Following a Well-Known Path: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
A well-known path has worked before in a highly similar situation.	Your situation differs in one or more significant ways.
The available workforce knows how to perform down that path. *or* In a timely manner, you can train the available workforce to perform.	The workforce is unfamiliar with the well-worn path. *or* The workforce requires too much time to become trained.
Resources to support the well-known path are available at a tolerable cost.	Cost to train and equip the workforce is not tolerable in light of the expected economic return.

Using a Plausible but Un-Tried Path

The generic *strategy* of using a plausible but un-tried path is actually implemented more often than prudence recommends. The *strategy* is often mistakenly used when the current problem is not actually similar to the referenced past problem.

It is also common for a group to follow this *strategy* when no well-known path is available and the need for *action* is deemed to be acute. The group does its best in a short time to devise a plausible *strategy*. Such hurried *strategy* design is, of course, risky.

Another somewhat related way for this *strategy* to be adopted is for the executing group to push for a path they know how to do, for which they can develop detailed cost and schedule estimates. So the choice is made on the basis of the feasibility of the *actions*—not the likelihood for the *actions* to achieve the intended *objectives*. Organizations with deeply ingrained preferences for "doing it our way" often push for this adoption.

Clearly, this generic *strategy* has substantial risk. It can lead to more or less total failure. The *strategy* is likely to require substantial support and resources because it is not a well-known *strategy*. As the *strategy* is followed and the resource needs become evident, they may be too large to handle. In this case, the effort is stuck. All prior expenditures are lost.

Table 8. Using a Plausible but Un-Tried Path: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
No well-known path is suitable and the untried path is plausible.	A good path may not exist.
The situation demands urgent *action* and it is possible to start the untried path now.	Urgency may be unwarranted.

Strategies with Multiple Paths

The next group of *strategies* involves multiple paths as you work toward your goal. Covered in this section are the following *strategies:*

- Pursuing multiple paths concurrently
- Using reserves to reinforce early success with multiple paths
- Combining outcomes from multiple paths
- Pursuing multiple, mutually reinforcing, best practices

Pursuing Multiple Paths Concurrently

The generic *strategy* of pursuing multiple paths concurrently is very attractive when the cost of multiple efforts is tolerable (e.g., development of subsystems) and the success of any one path is sufficient. This *strategy* has the great advantage of generating hard data, not opinion or assertions, in proposals upon which to base later, more expensive decisions.

In **military campaigns**, pursuing multiple paths concurrently is often used with smaller units to explore the details of terrain and the disposition of opposing forces. The *strategy* is implemented by splitting larger forces into smaller forces to determine the types and strengths of multiple defensive *actions*. After all, even the defending commander does not know in advance how well each of the commander's units will fight.

> **Important** Splitting the forces decreases the likelihood of success of each individual path.

This generic *strategy* is useful when you can only resolve the important unknowns by observing the actual execution of the *strategy*—and when resources are sufficiently abundant to support multiple paths.

Table 9. Pursuing Concurrent Multiple Paths: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
The cost of each path is small.	All paths may be under-resourced.
The success of one path is adequate.	All paths may fail.

Using Reserves to Reinforce Early Success with Multiple Paths

In this generic *strategy* where you use reserves to reinforce the early success of one of multiple paths, you prevent the effort and resources for the multiple paths from consuming everything. You hold some substantial effort and resources in reserve. The reserve is then ready to use to reinforce, in a timely manner, whatever path is achieving early success.

> **Important** The withheld reserve, of course, further reduces the resource base supporting each path.

In military campaigns, the idea is to use the first attack wave to discover a weakly defended, or otherwise promising, path. Then you can tap your reserve and provide a timely reinforcement to exploit the promising path. Proper execution is critical and difficult. Not only must you discover the promising path in a timely fashion in the offensive position, you must be wary of a "faked weakness" that could lead to a trap.

The application of the reserve force must not only assure full success in the weak sector, it must at least set the stage for later success in the other, stronger sectors. The general belief is held that this was, at least partially, the *strategy* that the planners for the Soviet military advocated for an invasion of Western Europe in the 1970s and 1980s.

This *strategy* also works well if success in one sector is sufficient. Many business and industrial problems meet this test. Fewer military problems meet the test.

Table 10. Reserves Reinforce Early Success: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
Adequate resources are on hand to support multiple thrusts and a significant reserve of resources is also available.	During the execution phase, it turns out that resources are insufficient.
Success of one thrust is truly adequate to provide overall success in relevant terms.	During the execution phase or shortly after, it turns out that success of only one thrust is insufficient.

Combining Outcomes from Multiple Paths

At the slow end of securities trading lies the specialty called diversified portfolios. It counsels a *strategy* of buying and holding a diverse portfolio—and trading very little. This generic *strategy* of combining outcomes from multiple paths works when:

- Combining the outcomes of individual paths results in cumulative value
- The unknowable future fluctuations in outcomes are at least somewhat uncorrelated

Currently, some concern exists that the growth of "fast trading" and financial derivatives may increase the correlation of outcomes among types of securities that have heretofore been substantially uncorrelated. If correlation increases, diversified portfolios as now practiced would lose much of its value as a *strategy*.

Table 11. Combining Multiple Paths: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
You can measure overall success by the cumulative value of several individual efforts.	Some efforts may have true value disproportionate to their nominal value.
To some significant degree, the individual efforts achieve value independently of one another.	The fluctuations in value of the individual efforts may be substantially correlated under the important, adverse situations.

Pursuing Multiple, Mutually Reinforcing, Best Practices

Best practices—actions that worked well in similar situations—often are applied in multiple, mutually reinforcing groups. However, analyses that seek to determine the "best" of best practices are often counter-productive. When the set of actions combined in mutual support has been observed as productive working in mutual support, it is the combination that does the deed. This is true even when the exact mechanism of mutual support remains obscure.

A stunning example of this strategy of mutual support is presented in recently published work at the RAND Corporation. That work analyzed 30 counter-insurgency campaigns over the period 1978-2008. The analysis finds that the successful campaigns used a large number of widely-advocated individual "good practices" and avoided a number of "bad practices." Conversely, the failed campaigns used few of the good practices and often used some of the bad practices.

Note For references to this work from the RAND Corporation, see Paul, Christopher, Colin P. Clarke, and Beth Grill in Appendix A.

Strategies Focusing on Fields of Action

This group of *strategies* focuses on *fields of action* as you work toward your goal. Covered in this group are the following *strategies:*

- Using game theory concepts to assess a range of alternatives
- Changing the *field of action*
- Making a flanking maneuver

Using Game Theory Concepts to Assess a Range of Actions

The use of game theory concepts in *strategy* design and development has not proven to be as widely useful as originally expected. Several reasons explain this failure—all relate to the ambiguity inherent in *strategy* problems and the value of innovation in the *strategy* design and development process.

As we saw in "Using Some Concepts from Game Theory" on page 37 in Chapter 2, game theory depends on defining alternative *actions*. We can look at the following three situations to see how game theory requirements are sometimes at odds with *strategy* efforts. Game theory works well when:

- You can describe alternative *actions* available for both sides with some clarity and quantitative content. This is usually <u>not</u> the case for *strategy* efforts.
- The *field of action* for both sides is well known to both sides. Changing the *field of action* (covered next as a separate generic *strategy*) is usually a very powerful *strategy* in and of itself. Both sides have incentive and some ability to change the *field of action* to make it <u>not</u> well known to the other side.
- The "play" of the game is repeated many times to allow application of statistical methods. For many *strategy* problems, repetition is *not* possible.

In spite of the downsides and narrow applicability of game theory to *strategy* work, the rudiments of game theory have a very valuable role to play in *strategy* efforts. To demonstrate this, we offer a procedure based on game theory.

> **Note** This procedure refers to potential *actions* and potential futures, which we discussed in "Using Some Concepts from Game Theory" on page 37 in Chapter 2.

To set up actions and estimate outcomes in game theory

1. Make a list of potential *actions* feasible for your *opponent*. Focus on the big, intermediate *actions* that could make a big difference.
2. Make a similar list of potential *actions* feasible for our side. Again, focus on the big stuff.
3. For each pair of *actions* (our *opponent's actions* and our *actions*), estimate the outcome (potential future) in some measure that works for most, if not all, pairs of *actions*.

> **Important** Finding such a measure is usually hard—another problem with game theory.

Game theory practitioners usually display potential future outcomes on a rectangular grid with our *opponent's actions* listed at the top of the columns and our *actions* listed on the side of the rows. In classic game theory, these arrays of outcomes are more or less fixed. Game theory mathematics suggests the *actions* (in the column or row) for each side to actually undertake and with what probability.

But in *strategy* development, the procedure of proper interest is quite different. You want your *strategy* to diminish your *opponent* and restrict your *opponent's* ability to diminish you.

To apply game theory procedures to strategy development

1. Focus your attention on one or a few of your *opponent's actions* that result in very favorable outcomes for your *opponent*, at least for a range of *actions* on your part.
2. Look for additional *actions* you can take to oppose the outcomes favorable to your *opponent*. Your focus here is on *actions* that precede the current contest and *actions* that require adjusting the *field of action* boundaries.
3. Turn your attention to the opposite group of outcomes—those generally favorable to you, but for which some of the *opponent's actions* make good *counter-actions*.
4. Look for additional *actions* you can take to reduce your vulnerability to the effective *actions* of your *opponent*.

In summary, the application of game theory to *strategy* development is nothing like the mathematical treatment in textbooks on game theory. In *strategy* development, the emphasis is on inventing *actions* and networks of *actions* that seek to diminish your *opponent*—and restrict your *opponent's* ability to diminish you.

Table 12. Using Game Theory Concepts: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
The *actions* available to both sides are well known.	Intelligence is usually faulty to some degree.
The *field of action* available to both sides is well known to both sides and not subject to change.	Changing the *field of action* is usually a very attractive component of a *strategy*.
The play of the game is to be repeated many times so that statistical averages count.	High stakes *strategy* usually has only one play.

Changing the Field of Action

The previous discussion about game theory applications explicitly mentions deliberate *actions* to change the *field of action*. These changes open up additional, feasible *actions* on both sides.

If you carefully choose changes to benefit one side over the other, a material competitive advantage is likely to ensue. Moreover, if you can accomplish the change in relative secrecy and in a timely manner, the temporary competitive advantage is likely to dominate the overall outcome of the *strategy* problem.

If the limits of the *field of action* are constrained by legal, regulatory, and similar arrangements, changes may require considerable effort. The good news is that most regulatory *constraints* have procedures for obtaining waivers—particularly for special cases and for limited time scales.

Note For information about waivers, see the discussion in "What are Constraints and Obstacles?" on page 24 in Chapter 2.

Table 13. Changing the Field of Action: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
The current *field of action* does not readily offer a satisfactory *strategy*.	Expansion is not feasible in time at reasonable cost.
Expansion of the *field of action* appears feasible and attractive.	Your expansion may offer your *opponent* new opportunities.

Making a Flanking Maneuver

A common military example of changing the *field of action* is called a **flanking maneuver**. In this maneuver, one side seeks to move some of its forces (rapidly, surreptitiously, and in good order) around one end of the *opponent's* defensive disposition.

From this new position, you can mount many effective *actions*, such as interdiction of supply lines, attack on exposed ends of defensive positions, and capture of lightly defended territory. Indeed, if you successfully carry out the flanking maneuver, it is often so threatening that it induces a general withdrawal by the defending *opponent*.

Several notable examples in the 20th century illustrate the effective use of flanking maneuvers:

- The 1940 German flanking of the French heavily-fortified Maginot Line through neutral Belgium is one example.
- The 1950 amphibious assault at Inchon by General MacArthur was well behind North Korean lines.
- The 1991 armored thrust by General Schwarzkopf through miles of "trackless desert" dislodged the Iraqi Army from Kuwait.

In each of these cases, the technical means supporting the maneuver were splendid and the defending *opponent* had a strong cultural reason to discount the possibility of the flanking maneuver. As a result, the military situation was very much improved and the defending *opponent* was quite demoralized.

Table 14. Making a Flanking Maneuver: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
Frontal assault is, in itself, unattractive for some valid reason.	The unattractiveness of the frontal assault is overestimated.
An effective flanking maneuver is permitted by the current situation.	The flanking maneuver does not have the intended effectiveness.
Your team is trained, equipped, and motivated to carry out the flanking maneuver.	Flanking maneuvers are often more difficult to carry out than expected due to lack of preparation and unexpected *friction*.

Techniques Applicable to All Strategies

You can apply certain techniques to all types of *strategies* as you work toward your goal. Covered in this group are the following techniques:

- Taking early *actions* to reduce risk
- Using surprises, trickery, and *Black Swans*
- Treating a budget issue as a schedule issue
- Moving faster and smarter than the *antagonist*
- Using partnerships and alliances

Taking Early Actions to Reduce Risk

This generic *strategy* technique seeks to reduce risk by taking early *actions* to learn more about the problem at hand, to anticipate C&O Items, and to bound and reduce uncertainties. These preparatory *actions* require resources and time, which may be in short supply. And the *actions* often require the services of specialized organizations (e.g., intelligence services) that may be difficult to control.

However, a downside exists. Preparatory *action* to reduce risk can alert your *antagonist* to your intended main *action*, in turn permitting the *antagonist* to take an effective *counter-action* against you.

> **Note** For additional techniques, see the section "Moving Faster and Smarter than the Antagonist" on page 64 in this chapter.

If the current problem includes active *competitors* and *antagonists*, some important C&O Items show up only during the execution. They show up when your determined *opponents* seek to foil your *strategy*. This often limits the degree of risk reduction that is feasible.

Table 15. Early Actions to Reduce Risk: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
Early *actions* are effective at reducing risk and are not expensive.	Risk concerns overwhelm cost penalties and overstatements of effectiveness.
Early *actions* do not unduly telegraph your main *action*.	Early discovery of your intentions undercuts your *strategy*.

Using Surprises, Trickery, and Black Swans

The most surprising thing about surprises is that they are truly surprising. They are surprising to the general population, surprising to the practitioners within the field, and even surprising to those few individuals who have a responsibility and opportunity to alert others about potential and impending surprises.

When used as an element of *strategy*, surprises tend to produce good results, if not perfect surprise. So the real issue is to assess the downside of using a particular surprise. Some issues to assess are the following:

- Likelihood of premature discovery
- Competence of your team to execute
- Range of outcomes, based on premature discovery or incompetent execution

If these downsides are tolerable, if the cost to execute is tolerable, and if the value of a successful surprise is material, trying for surprise is reasonable. What tends to go wrong is that the enthusiasm overwhelms the assessment.

Trickery is a subset of surprise where the *opponent* is deliberately deceived into believing something other than the real surprise. Such deception is altogether more difficult to execute. It usually requires insight into the *opponent's* predilections and expectations.

Another subset of surprise is *Black Swans*, currently of considerable interest in management consultant circles. The essential elements of *Black Swans* are described in Box 6 on page 33. *Black Swans* surprise people because domain experts are willing to certify that they are very unlikely—so unlikely that we need not take them into account when planning a *strategy*.

The book *The Black Swan*, by N. N. Taleb, puts forth the argument that domain experts are disposed to underestimate the likelihood and also underestimate the consequences of a *Black Swan*. Accordingly, Taleb proposes a more prudent approach—make such preparations for *Black Swans* as you can truly afford.

Note For information about Taleb's book, *The Black Swan*, see Appendix A.

As discussed here, trickery and *Black Swans* are subsets of surprise. In the next table, we use the term "ruse" to represent the entire group—surprises, trickery, and *Black Swans*.

Table 16. Surprises, Trickery, Black Swans: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
Highly reliable *actions* are not available for whatever reason.	Enthusiasm for the ruse blinds the perpetrator to the downsides.
You have reasonable expectation that your *opponent* cannot discover your ruse.	An able *opponent's* discovery of the ruse can be most untimely.
You have reasonable expectation that the ruse can withstand future random events.	The ruse is fragile to random events not under your control.

Treating a Budget Issue as a Schedule Issue

Budget battles are legendary for their intensity of emotion. Otherwise sensible and well-behaved people are known to display duplicity, venality, and even rage. When looked at more carefully, we notice the origin of the fury is often an early budget period—the first year, the first quarter, or the first month. It is during that period where the new budget item begins to crowd out, or puts noticeable pressure on, another budget item agreed to during a previous, vicious budget battle.

Very often you can adjust the budget profile for the new budget item without material impact upon the ultimate availability date of the end product. Very often some other budget items, not in the budget battle at the moment, can offer some scheduling relief. These budget items might have a technical or regulatory delay that reduces their actual near-term needs.

The key to this technique is to realize new money is always available next year and the next and the next. It may not be as much as this year, or it may be more. Some claims on the budget may grow; other claims may shrink. All in all, experience has shown that treating budget development as merely a scheduling matter is sound from an analytic perspective. Moreover, it seems to bring out more rational and constructive discourse.

Table 17. Budget Issue=Schedule Issue: Useful Applications and Pitfalls

Criteria for Useful Applications	Pitfalls
Both the project's demand for resources and the budgetary supply of resources are recurring, typically multi-year.	Sliding activities to later time periods comes with some penalty in overall performance.
You have budgetary control of several projects with overlapping budgetary requirements that you can adjust.	Persons with hidden agendas can use budget adjustments to pursue policy goals in secret.

Moving Faster and Smarter than the Antagonist

Consider now some situations where the two sides are engaged in a more or less continual struggle. Both sides take *actions*. Both sides make gains and take losses. In general, the two sides have somewhat different equipment and different training. But what can be a devastating competitive advantage is if one side takes a smarter *action* (or "move") and a faster *action*.

In a business situation, this *action* could be a more discerning insight into the mood of the market with its many, diverse customers. It could mean a faster cycle time to get a new product to market ahead of the competition. Or it could mean a leaner, meaner supply chain leading to a shorter production-to-sales time. Many national store brands (such as Dell™, WalMart™, and Apple®) have been built on smarter, faster *strategies*.

In aerial combat, the *action* could be a steady discipline not to engage when the initial circumstances are altogether unfavorable. Conversely, the *action* could be the alertness to use a winning maneuver faster than the *antagonist*.

John Boyd, Colonel U.S. Air Force (retired), explored and promoted such *strategies* in the 1970s and is highly regarded for his work. He rarely wrote about his work, preferring oral communication. But many write about Boyd.

> **Note** For references to publications about John Boyd, see the works by Coram, Hammond, Osinga, and Richards in Appendix A. For a diagram and more information about the OODA Loop discussed next, see Appendix C.

Boyd focused on *strategies* dominated by direct *actions* and *counter-actions* between competent *opponents* (in our context, you and a competent *antagonist).* For this, Boyd developed a construct he called the OODA Loop. The acronym stands for observation, orientation, decision, and *action:*

- Observation is the collection of current data.
- Orientation is the analysis of current data in light of prior data and serious reflection.
- Decision is the determination of a course of *action* based on observation and orientation.
- *Action* is the physical playing out of the decisions.

You and the *antagonist* are of course doing the same thing, so a set of multiple, mutually interrupted OODA Loops is the expected environment.

> **Note** For information about our use of the terms *opponent* and *antagonist*, see Box 4, "Three Classes of Opponents," on page 22.

One subtle point, not normally covered in descriptions of Boyd's work, but not lost on Boyd himself is this:

> The current data collection is of higher quality and relevance to the extent the prior orientation is correct and complete.

Although Boyd started his work with applications to aerial combat, his later work extended and enriched the concepts to broader applications. His focus on changing the *competitor's* behavior has been applied to current business *strategy*.

In the securities market, we see how the market moved toward more automation in the early 21st century. A whole market grew based on very fast trading—in the millisecond time scale. Such trading uses computerized analysis of market behavior and more or less automatic issuance of trading orders. This fast trading has led to some aberrations in the market and attendant concerns.

Table 18. Moving Faster and Smarter: Useful Application and Pitfall

Criteria for Useful Application	Pitfall
This requires a *strategy* dominated by *actions* and *counter-actions* between competent *antagonists*.	Focus on moving faster obscures the moving smarter requirement, leading to unexpected failure.

Strategies Using Partnerships and Alliances

At the level of Grand Strategy, partnerships and alliances, either openly trumpeted or secretly arranged, contribute mightily to the essence of the *strategy* design. But now all prior admonitions about getting to know your *opponent*—the *opponent's* true *objectives*, ingrained culture, way of thinking, predilections for *action*, actual military and industrial capabilities, and so forth—are repeated for each member of the partnership or alliance.

So the complications and opportunities for honest, or not so honest, error are multiplied. And so the need for care in design and openness in execution are ever so important.

To be sure, true alignment of *objectives* among the participants goes a long way toward a successful arrangement. Many would say it is mandatory. But such alignment can be announced, but not really exist. For example, many governments have "loyal opposition" components that often have somewhat divergent *objectives*. Under pressure of inadequate progress in the overall enterprise, such internal divergences can manifest themselves in causing lots of trouble.

All in all, *strategies* that rely upon partners is not for the novice or the faint of heart. Solid, experienced individuals are essential. Lots of open, probing discussion is required simply to get a solid foundation of what we called the *starting point* in Chapter 2. And even more is required to get an honest statement of what each participant is really agreeing to do for the common enterprise.

All of that being said, there are many situations where partnerships and alliances are essential to the *strategy* effort. And so the application of the concepts described in this manual must take place within the complexities of the common enterprise, as difficult as that effort can be.

> **Note** For a masterful account of a grand-strategic partnership that ultimately succeeded, see Andrew Roberts' *Masters and Commanders: How Roosevelt, Churchill, Alanbrooke and Marshall Won the War in the West—1941-45* in Appendix A.

Summing Up and Looking Ahead

The next box summarizes what we covered in this chapter. Check this list to see if you need to refresh your understanding about any of the topics.

What was Covered in Chapter 3

» Several historic examples of *strategy* successes and failures

» Some lessons to be learned from the historic examples

» A wide array of generic *strategy* types

» Criteria for useful applications and the pitfalls of each generic *strategy*

Box 8. Summing Up Chapter 3

The next chapters in this manual describe the step-by-step staff activities of the *Development Staff*, the *Approval Staff*, and the *Execution Staff*. The next box, which might look familiar, gives you a preview of coming attractions.

Step-by-Step Staff Activities to Support a Strategy

Part One—Designing the Strategy (Development Staff)

4 Assessing Objectives and Actions
5 Assessing Knowledge and Support Bases
6 Assessing Constraints and Obstacles

Part Two—Developing and Approving the Strategy (Development Staff in Collaboration with Approval Staff)

7 Approval to Develop a Strategy
8 Dealing with Constraints and Obstacles
9 Analyzing and Improving Strategies
10 Building Support and Approval to Execute
11 Evaluating Quality of Staff Work

Part Three—Executing the Strategy (Overseen by Execution Staff)

12 Building an Execution Team
13 Measuring and Reporting Progress
14 Surprises and Setbacks During Execution
15 Successes and Failures Toward the End

Box 9. Coming Attractions

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Part One

Designing the Strategy

Chapter 4
Assessing Objectives and Actions

Chapters 4, 5, and 6 present a step-by-step set of instructions for the *Development Staff* to follow in designing its main deliverable—the *Proposal to Develop a Strategy*. These instructions build upon the concepts and examples in Chapters 1, 2, and 3. The actual design process is, of course, a creative matter—not altogether compatible with a step-by-step instruction set.

The purpose of this approach is to promote thoroughness and ensure that the *Proposal to Develop a Strategy:*

- Addresses all the important considerations
- Identifies and describes all critical uncertainties
- Is a professional product complete enough to present for approval

Note For details about the approval process, see Chapter 7, “Approval to Develop a Strategy.”

In this chapter, we cover the following basic steps to assess the *objectives* and *actions* for a *strategy*.

To assess the objectives and actions for a strategy

1. Choose an *end-point objective*.
2. Describe the *starting point*.
3. Select some candidate *intermediate objectives*.
4. Select some candidate *proximate objectives*.
5. Combine *actions* and *objectives* into alternative *strategies*.
6. Assess alternative *strategies*.

Choosing an End-Point Objective

As we discussed in “End-Point Objective” on page 19 in Chapter 2, the choice of an *end-point objective* is a key decision in *strategy* development. The essence of an *end-point objective* is to provide a concrete embodiment of an ill-defined though worthy and desirable goal.

Concise Name and One-Sentence Description

Strive for a name and one-sentence description of your *end-point objective* that clearly relates to the nebulous goal of the *strategy*. The description guides the whole *strategy* development process. It is a key part of the description of your *Draft Alternative Strategies*—the major deliverable for this chapter.

When you write the one-sentence description of the *end-point objective,* make it crisp and quantitative. This makes it easier to measure and record progress. A clear and unambiguous *end-point objective* makes progress toward its achievement clear and unambiguous. This helps clarify the *actions* toward the *intermediate objectives* needed to support the final *actions* toward the *end-point objective*.

Remember, the content of a *strategy* is the network of *actions* and *objectives* that convey you from your *starting point* to your *end-point objective*.

> **Tip** Writing a concise name and one-sentence description of the *end-point objective* helps the *strategy's* content fall into place. As you design the content, refer back to the name and one-sentence description of the *end-point objective* to keep on track.

Attractiveness Counts in Garnering Support

When you choose an *end-point objective*, refer to "General Characteristics of Good and Bad Strategies" on page 34 in Chapter 2. Use these characteristics as guiding principles—some to follow and some to avoid.

Address the attractiveness of the *strategy* from the viewpoint of the *Approval Authority* and other major *Stakeholders*. Their perspectives may well diverge from that of the instigator of the *strategy* or even the beneficiaries of the successful execution of the *strategy*.

Role of the Development Staff and Timing of the Choice

The *Development Staff* guides the early efforts to choose a good *end-point objective*. In particular, this staff works hard to keep several candidate choices in play for as long as possible. In some cases, alternative *strategies* need alternative end-points. If the *end-point objective* is chosen too early, subsequent considerations could well force a change. Such changes can tarnish the image of the enterprise and reduce support.

Describing the Starting Point

Design all *strategies* to start from the set of circumstances actually in place. This current set is what we call the *starting point*. If those circumstances are untidy, and if the untidiness matters, then cleaning up those matters is part of the *actions* that comprise the overall *strategy*.

Initial List of Items Comprising the Starting Point

From the current set of circumstances, we develop the initial list of items—the **Starting Point List**—that describes the *starting point*. Do not worry about completeness and relevancy of your initial list; it evolves over time as your work continues. The next table gives an example of the types of items you might put on your *Starting Point List*.

> **Important** It is important from the beginning to candidly describe each item on the list.

At first, the item descriptions have unknowns and uncertainties, particularly as to relevancy because the *strategy* is still under development. Keep a running **List of Missing Items, Uncertainties, and Unknowns** as your work proceeds and adjust it accordingly.

As the *strategy* develops, the *Starting Point List* changes because knowledge is gained and matters become somewhat clearer. It is helpful to note why you put each item on the list. As the *strategy* development proceeds, you can evaluate and adjust these reasons as appropriate. Above all, be truthful. Do not fool yourself.

Important The most critical item to put on this initial *Starting Point List* is the level of domain expertise of the *Development Staff* cadre in the domain at hand. Almost always, you must immediately augment the level of domain expertise. For tips on how to do this, see Chapter 2, "How to Find, Recruit, and Use Expert Help," on page 31.

The next table shows one way to organize the items in your *Starting Point List*.

Table 19. Example of an Initial Starting Point List

Initial Starting Point List			
Item Catalog Number	**Description of Item, including Sub-Items**	**Staff Member Assigned**	**Date for Next Review**
SP-1	Candidate *end-point objectives*	Able 1	Next Wed
SP-2	*Constraints* and *obstacles* short list	Baker 2	Next Fri
SP-3	Staff cadre assigned, promised, requested	Director	Tomorrow
SP-4	Candidate *Execution Team* members	Charlie 4	Week 2
SP-5	Domain expert cadre recruitment	Delta 5	Week 2

Selecting Some Candidate Intermediate Objectives

Selecting some candidate *intermediate objectives* is the real creative beginning of *strategy* design and development. How do we choose even one useful *intermediate objective?* Some people have the gift of seeing strategic approaches quickly and easily. Most of us, regrettably, are burdened with the need to do a fair amount of trial and error. Because of this, most of us can benefit from learning about generic types of *actions* that have stood the test of time.

Note For information about generic types of *actions*, see Box 7 on page 34 in "Useful Types of Strategy Actions."

The example in Chapter 3 of the young person facing college and career choices is a case where *intermediate objectives* are derived by starting with the *end-point objective* and working backwards. In other cases, especially in business where the real issues involve discipline in execution, we can develop a straightforward *strategy* by starting at the beginning.

In general, you need to try both approaches. You can even start at both the end and the beginning and then join up somewhere in the middle to arrive at a network of *actions* and *objectives* that constitute a start-to-finish *strategy*.

In Chapter 6, we find that dealing with C&O Items usually leads to additions and adjustments of the *strategy* and its *actions* and *objectives*. These additions and adjustments in themselves may result in some of the undesirable characteristics of a bad *strategy*, which are listed in Table 5 on page 35. If this happens, explore other strategic approaches.

Selecting Some Candidate Proximate Objectives

People can actually work only on things they know how to do. Rumelt's concept of the *proximate objective*, described on page 19, captures that truism in the context of *strategy* development.

Timing Actions to Achieve Proximate Objectives

Just because you can take an *action* directly from the *starting point*, it does not follow that it is best to take the *action* right away. As a rule, the only *actions* to take early are low-cost, high-value *actions*. These are usually *actions* that improve the *knowledge base* and *support base,* which are discussed in Chapter 5.

Generic Proximate Objectives You Can Postpone

Usually, capabilities not present in the *starting point* are needed to facilitate a *strategy*. Achieving those capabilities is likely to require substantial resources. It also may require some valuable time.

We have a trade-off, then, of resource consumption and time to achieve those capabilities. Typical *actions* to achieve the capabilities to facilitate a *strategy* in the business arena are the following (words in parentheses adjust the items to military vernacular):

- Training and augmenting the initial workforce (combat force)
- Developing special new equipment or industrial (logistics) processes
- Researching, developing, and producing special materials (weapons)
- Purchasing and installing new and additional production (combat support) equipment
- Designing and constructing new facilities (bases)

Combining Actions and Objectives into Alternative Strategies

At this stage in our *strategy* development, we have only the most general ideas of how a feasible *strategy* takes shape. And we have not even begun to explore the very important matters of the *knowledge base* and the *support base* or C&O Items.

> **Note** For in-depth discussions, see Chapter 5 "Assessing Knowledge and Support Bases" and Chapter 6 "Assessing Constraints and Obstacles."

Nonetheless, even at this stage, it is useful to put together several *Draft Alternative Strategies* that connect, with logic, from the *starting point* to one or more *end-point objectives*. These alternatives serve as testing grounds for the staff work discussed in Chapters 5 and 6.

The level of logic required is just enough to connect from the *starting point* to a candidate *end-point objective*. At this stage, you do not need to specify in any detail the *actions* within the network. But you *do* need to clearly specify the intended result of each *action*—what changes you expect to happen and what changes you do not expect to happen.

Abundant Resources Permit Simpler Strategies

If resources such as money, talent, and workforce are tight, success is much more dependent upon cleverness in choosing a winning *strategy*. Such cleverness is tolerable if all goes well. If the unknowns work out favorably and if the execution is solid, the clever *strategy* can succeed.

If resources are plentiful, success is assured with much less dependence upon clever *strategy* design. Success in this situation is also much less dependent upon favorable outcomes of unknowns and faultless execution of the *strategy*.

Keep a Wide Range of Draft Alternative Strategies

At this stage, you have a great deal of freedom in choosing and scheduling *actions* and *objectives*. Accordingly, the best focus for the *Development Staff* is to explore a wide range of *Draft Alternative Strategies* where each alternative seeks success through a different general approach.

Assessing Draft Alternative Strategies

Use the list of the characteristics of good and bad *strategies* in Table 5 on page 35 to perform an overall assessment of your *Draft Alternative Strategies*. The following are the most likely outcomes of this first assessment:

- All alternatives have several bad characteristics.
- All alternatives have some of the same bad characteristics.
- None of the alternatives have enough clarity to enable an assessment.
- Some combination of these problems.

> **Important** If any of these outcomes are the result of your first assessment, more work is in order before you can proceed.

Deliverables for Chapter 4

Before proceeding to undertake staff work beyond this chapter, it is a good idea for the *Development Staff* to memorialize its work. The following are typical internal deliverables, with the actuals determined by the content of the staff work and the concerns of the *Development Staff Director:*

- *Draft Alternative Strategies*—three to 10 pages for each alternative, with content for each including the *Starting Point Lists*, the *end-point objective* choices and rationales, the important *actions* leading to *intermediate objectives,* and the assessments of the *strategies*.
- *List of Missing Items, Uncertainties, and Unknowns*—a one-page list to guide the work in Chapter 5.

Note These lists of deliverables are written in a form to apply to a big *strategy* effort, with big formal staffs. Smaller efforts with smaller staffs, or no staffs at all, would not call for such formality. However, you really do need to nail down the essence of the deliverables for a likelihood of success. *Strategy* is usually about important matters worthy of success.

Chapter 5
Assessing Knowledge and Support Bases

A good *strategy* is most needed, and can have the most reward, when the situation is ill-structured. One of the key characteristics of ill-structured situations is uncertainty and ambiguity of the *knowledge base*—data that impact the situation. A good *strategy* needs a lot of support from its *support base*—authorities and organizations outside its core agencies and staffs.

When developing a *strategy*, you continually build and improve your *knowledge base* and *support base* as you implement off-setting *actions*. Through all stages of executing the *strategy,* you keep improving your *knowledge base* and the *support base*.

This chapter provides guidance to the *Development Staff* in assessing the current status of the *knowledge base* and the *support base*. The chapter identifies *actions* you can take to do the following:

- Reduce uncertainty and ambiguity in the *knowledge base*
- Build your *knowledge base* and your *support base*

Fortunately, the *actions* required to improve each base are similar, which makes it easier to apply the guidance provided in this chapter.

What is the Knowledge Base?

In assessing the *knowledge base*, the *Development Staff* considers all four classes of data in the *knowledge base:*

- Known matters (data known to the *Development Staff)* about the domain of interest, the *starting point*, the composition and perspective of the *Approval Authority* and other *Stakeholders*, and other matters directly related to the *strategy*.
- Factual matters (data known to someone outside the *Development Staff)*, such as technical, legal, and historic matters.
- Researchable matters (data known to no one), such as technical measurement, field exercises, and opinion polls accessible with feasible effort. The level of certainty of the data depends upon the level of effort and the time available to exert the effort.
- Future matters (data known only in the future), such as the reactions of supporters, *competitors*, and *antagonists* to what you say and do about your *strategy*. This class includes those matters called unknown-unknowns wherein the very existence of the unknown is unknown.

Building a Knowledge Base Catalog

Using these four classes of information and the *List of Missing Items, Uncertainties, and Unknowns* from Chapter 4, the *Development Staff* builds a

Knowledge Base Catalog. Update this catalog as you gain improvements in knowledge.

In the early stages of the *Knowledge Base Catalog*, the catalog contains the following information:

- Assessments of the criticality of each item that has substantial uncertainty
- Feasible, candidate methods for increasing certainty and improving each critical item

You can set up your *Knowledge Base Catalog* as a table with three columns to help keep track of the information.

Table 20. Simple Example of Knowledge Base Catalog

Relevant Items, whether Known, Uncertain, or Unknown	**Criticality** 1=least 5=most	**Possible Methods to Increase Certainty and Improve the Item**
Goals of *opponents*	5	Read open and private statements; perform analysis of actual *actions*.
Capabilities of *opponents*	4	Perform analysis of observables.
Capabilities of your *Execution Team*	4	Engage team in realistic exercises.
Suitability of your team's equipment	3	Perform formal evaluation tests.

Improving the Knowledge Base

Improving the *knowledge base* takes *actions*. These *actions* take time, talent, and resources. Fortunately, such resources are usually, but not always, modest in relation to other *actions* in the overall *strategy*.

Knowledge Base Improvement Program

It is useful when assessing your *knowledge base* to develop a **Knowledge Base Improvement Program** complete with rough estimates of the time, talent, and resources needed for real improvement. Organize your improvement program to clearly show the parts of the program that support each of the *Draft Alternative Strategies* you identified in the Chapter 4 deliverable. For each part of the *Knowledge Base Improvement Program, a*ssess as best you can its relative value to each *strategy*.

Important For maximum effectiveness, update the *Knowledge Base Improvement Program* as your *strategy* develops.

Off-Setting Actions for Weaknesses in the Knowledge Base

An initial *knowledge base* always has weaknesses. These weaknesses call for off-setting *actions*, such as:

- Improving knowledge through the *Knowledge Base Improvement Program*
- Establishing a formal **Knowledge Base Weakness Assessment** that examines each active *Draft Alternative strategy*, identifies impacts of *knowledge base* weaknesses, and suggests off-setting *actions*
- Scheduling *actions* within the *strategy* to obtain needed knowledge before putting large, dependent expenses at risk or making irrevocable decisions
- Pursuing multiple, concurrent approaches for critical *actions* in hopes that at least one approach is successful

What is the Support Base?

In both the *strategy* development phase and in the execution phase, the *Development Staff* assesses the current status of the *support base.* This allows you to identify *actions* you can take to build a *support base*. Your *support base* includes the following entities:

- The *Approval Authority* who provides, directly or indirectly, financial resources such as money, access to facilities and services, overall approval to continue *strategy* development, and eventually approval to execute.
- The comptroller function of the *Approval Authority*, which often has a somewhat different perspective on expenditures and management processes.
- The *Execution Agency* that actually executes the *strategy*.
- Other agencies that control facilities and services impacted by execution of the *strategy*.
- In some cases, a public relations function.
- In many cases, legislative and regulatory bodies.
- Other entities, particularly those that are probable beneficiaries of the *strategy*.

> **Note** For insight into the most effective *actions* to build two key *support bases*, see "Perspectives of the Approval Authority and the Execution Agency" on page 101 in Chapter 9.

Building a Support Base Catalog

Using this list of entities as the *support base*, the *Development Staff* builds a **Support Base Catalog** to track the current state of support provided by each entity.

In the early stages of the *Support Base Catalog*, the catalog also contains the following information:

- Assessments of the criticality of each item of substance, including likely changes in support over time in the absence of effort to influence continuing support
- Feasible, candidate methods for improving each critical item in the catalog

Like the *Knowledge Base Catalog*, you can set up a *Support Base Catalog* as a table. This time we need an additional column to help keep track of the items that various entities support.

Table 21. Simple Example of Support Base Catalog

Support Base Entity	**Item of Support**	**Criticality** 1=least 5=most	**Possible Methods to Increase the Current State of Support**
Approval Authority	Good execution	5	Regular, candid reports
Comptroller	Proper use of funds	4	Regular, competent audits
Execution Agency	Funding on time	3	Dedicated expediter at work

Improving the Support Base

Improving the *support base* takes *actions*. These *actions* take time, talent, and resources. As in the case of the *knowledge base*, these resources are usually, but not always, modest in relationship to other *actions* in the overall *strategy*.

Support Base Improvement Program

It is useful when assessing your *support base* to develop a **Support Base Improvement Program**, complete with rough estimates of the time, talent, and resources you need for real improvement in the *support base*.

Organize this improvement program the same way as the *Knowledge Base Improvement Program*. Clearly indicate those parts of the program that support each *Draft Alternative Strategy* you identified in the Chapter 4 deliverable. For each part of the *Support Base Improvement Program,* assess as best you can its relative value to each *strategy*.

> **Important** For maximum effectiveness, update the *Support Base Improvement Program* as your *strategy* develops.

Off-Setting Actions for Weaknesses in the Support Base

Like the *knowledge base*, your *support base* comes complete with weaknesses. These weaknesses call for off-setting *actions*, such as:

- Improving support through the *Support Base Improvement Program*
- Establishing a formal **Support Base Weakness Assessment** that examines each currently active *Draft Alternative Strategy*, identifies impacts of *support base* weaknesses, and suggests off-setting *actions*
- Scheduling *actions* within the *strategy* to obtain support before large, dependent approvals and expenses are at risk
- Pursuing multiple, concurrent approaches for critical *actions* in hopes that at least one approach is successful

Deliverables for Chapter 5

The *Development Staff* prepares periodic internal documents for the *Development Staff Director* to describe the staff's work on the *knowledge base* and the *support base*. The following are typical in-progress documents, with the actuals determined by the content of the staff work and the concerns of the *Development Staff Director:*

- *Knowledge Base Catalog*
- *Knowledge Base Improvement Program*
- *Knowledge Base Weakness Assessment*
- *Support Base Catalog*
- *Support Base Improvement Program*
- *Support Base Weakness Assessment*

Note These lists of deliverables are written in a form to apply to a big *strategy* effort, with big formal staffs. Smaller efforts with smaller staffs, or no staffs at all, would not call for such formality. However, you really do need to nail down the essence of the deliverables for a likelihood of success. *Strategy* is usually about important matters worthy of success.

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Chapter 6
Assessing Constraints and Obstacles

As introduced in Chapter 2, most *strategies* are faced with C&O Items that interfere in one way or another with execution of otherwise pretty nifty *strategies*. Many *strategies* fail because they ignore or underrate the effort and *strategy* design required to deal with C&O Items. This chapter provides guidance to the *Development Staff* on methods to deal with difficulties in dealing with C&O Items. Recall that *constraints* and *obstacles* do not, by our choice of nomenclature, include *actions* of your *competitors* or *antagonists*.

How Do Constraints and Obstacles Differ?

To be sure, the differences between *constraints* and *obstacles* are modest. But the differences deal with time, and time matters in many *strategies*.

We use the term *constraints* to refer to difficulties that constrain the rate at which our *actions* can proceed. Examples are the production rate of needed equipment or the speed at which military units can move. We also use *constraints* to identify difficulties that constrain the manner in which we can carry out desirable *actions*. An example of this use of the term is the *constraint* by regulation to minimize environmental impact.

We use the term *obstacles* to refer to difficulties that block certain *actions*. *Obstacles* remain in place for a time that is material to *strategy* design and execution, even if they eventually fade away. A good example is a flooded river—the river eventually is not flooded. In principle, determined *actions* can remove an *obstacle*, but at some cost in time and effort. A more attractive *strategy* finds a way to avoid the *obstacle*. Deliberately expanding the *field of action* often opens up new ways to avoid C&O Items.

Creating a Constraints and Obstacles Catalog

By far the greatest error in *strategy* development is to ignore or underrate C&O Items. You simply must deal with them. Creating a **Constraints and Obstacles Catalog** and updating it as your *knowledge base* improves over time usually produces a satisfactory result—no significant C&O Item is left behind and forgotten.

> **Important** Throughout your *strategy* work, constantly look out for C&O Items, find efficient and effective ways to handle them, and then deal with them.

Creating and Using a Constraints and Obstacles Catalog

1. Choose and name the characteristics of C&O Items appropriate to the domain of your particular *strategy* and to the types of *actions* in the *Draft Alternative Strategies* from your Chapter 4 deliverable.
2. Put your domain experts to work on describing each item in the *Constraints and Obstacles Catalog* candidly and thoroughly, giving a unique identity number to each item.

> **Tip** Be sure each description has sufficient detail to carry out further investigations.

3. Characterize how the difficulties with C&O Items are likely to change over time.
4. Identify opportunities for *actions*, by you and by your *opponent*, that might change the C&O impacts for better or worse.

> **Tip** Recall that *constraints* and *obstacles* do not, by our choice of nomenclature, include *actions* of your *competitors* or *antagonists*.

5. Formulate the situation as a risk management problem by identifying opportunities to trade time for risk, money for risk, and *objectives* for risk or by using other risk management tools to reduce, avoid, or accept some risk. In this regard, take care to include consideration of C&O Items currently hidden from view. And be sure to include in your *knowledge base* items arising from unknowns.
6. Develop an assessment of how the C&O impacts you identified, and the possible *actions* that could mitigate the impacts, would affect the updated *Draft Alternative Strategies* in your Chapter 4 deliverable.

> **Important** As shown ever so painfully in the financial meltdown of 2008-2009, some risk management tools are too focused on recent data and too trusting of assertions of risk by actors standing to gain by overstating their assertions. Such risk management tools do not guard against systemic failure caused by real, unrecognized risk. For a full account of this problem, see entries for Justin Fox and Felix Salmon in Appendix A.

Example of a Constraints and Obstacles Catalog

For an example of a *Constraints and Obstacles Catalog* that shows two C&O Items, see Table 25 in Appendix C.

Dealing with a Bad Result

If this procedure to deal with C&O Items results in a material change in the attractiveness of any of your *Draft Alternative Strategies*, do one of the following:

- Rework the *strategies* to better deal with the difficulties.

  or

- Develop one or more additional *Draft Alternative Strategies*.

If this process still does not yield any good *strategies*, then seek additional resources for planning purposes, seek major adjustment to the *end-point objective*, seek relief from instructions imposed by your own *staff director*, or do all three.

Finally, there are situations where the best available *strategy* is high risk. If so, admit that it is high risk and try to characterize the downside in concrete terms so that your *Approval Authority* can make an informed decision as to whether to authorize execution. Such high-risk *strategies* are often employed in athletic competitions by the losing side near the end of the game.

Further Work on Constraints and Obstacles

Chapter 8, "Dealing with Constraints and Obstacles," describes further staff work for C&O mitigation. Such work is central to a successful *strategy* development.

Preparing for Part Two Work

Chapters 4, 5, and 6, taken together, cover what we call the Part One staff work—the work needed to design a number of *Draft Alternative Strategies*. Hopefully, one or more of the alternatives is quite promising, at least if the unknowns and ambiguities turn out favorably.

The Part Two staff work consists of research, analysis, and even some field measurements and physical experiments dedicated toward reducing the unknowns and resolving the ambiguities. (Alas, the work may also uncover still more unknowns and ambiguities.)

Most important, the Part Two staff work is likely to require resources far beyond the time and effort of the *Development Staff*. Hence, the next step is to prepare a *Proposal to Develop a Strategy* that you can use to acquire the needed resources. You may also need special permissions to undertake certain types of activities to garner information.

Proposal to Develop a Strategy

As mentioned in Chapter 1, the purpose of the work described in the *Proposal to Develop a Strategy* is to bring the *strategy* description—that is, what *actions* to take—up to a standard sufficient to present the *strategy* for approval to execute. It is not a proposal to execute, merely a proposal to expend resources to fill in the unknowns and then develop a good *strategy* based on as many facts and hard logic as you can muster.

The *Development Staff* is the principal staff responsible for generating this proposal. However, the *Approval Staff* has an important role in crafting the proposal in a form suitable for presentation to the *Approval Authority*. In this regard, the *Approval Staff* also prepares a separate staff recommendation as to the appropriate approvals for the *Approval Authority* to take.

> **Note** For details, see "Approval Staff Recommendation to the Approval Authority" on page 94 in Chapter 7.

Update Appropriate Documents

In support of the *Proposal to Develop a Strategy*, the *Development Staff* needs to update all the appropriate documents started in the Part One work through Chapters 4, 5, and 6.

> **Note** Chapter 7 "Approval to Develop a Strategy" contains further guidance on preparing the *Proposal to Develop a Strategy* and getting it approved.

Deliverables for Chapter 6

The *Development Staff* prepares and submits to the *Development Staff Director* various reports and supporting documentation suitable for further distribution. Typical deliverables are the following, with the actuals determined by the content of the staff work and the concerns of the *Development Staff Director:*

- *Constraints and Obstacles Catalog*—with sufficient detail in each description to carry out further *action;* address the impact of difficulties with C&O Items and remedial actions on the *Draft Alternative Strategies*.
- *Draft Alternative Strategies* (updated from Chapter 4)—at this point in your development, hopefully about three separate alternatives from *starting point* to *end-point objective* and including the latest C&O Item findings.
- *Knowledge Base Improvement Program* (updated from Chapter 5).
- *Support Base Improvement Program* (updated from Chapter 5).
- *Proposal to Develop a Strategy*—complete with purpose and relationship to the overall *strategy* effort as described on page 5 in Chapter 1; content lays out the work program for Part Two, the resources needed to accomplish that work program, and the authorities and permissions needed to use those resources.

> **Note** These lists of deliverables are written in a form to apply to a big *strategy* effort, with big formal staffs. Smaller efforts with smaller staffs, or no staffs at all, would not call for such formality. However, you really do need to nail down the essence of the deliverables for a likelihood of success. *Strategy* is usually about important matters worthy of success.

Part Two

Developing and Approving the Strategy

Chapter 7
Approval to Develop a Strategy

The *Proposal to Develop a Strategy* is our point of departure to get the approval to develop a *strategy*. The draft of this proposal is one of the deliverables for Chapter 6.

Work Program for Developing a Strategy

A sound, well-crafted, and professionally prepared *Proposal to Develop a Strategy* lays out a substantial work program to include:

- Research to find out as many as practical of the unknown and uncertain matters identified in the *strategy* design.
- Experimentation, such as field trials and other real world activities, to resolve other unknown and uncertain matters not known to anyone.
- Analysis, including quantitative modeling, to develop plausible ranges of values for other unknowns and uncertain matters not amenable to resolution through research or experimentation.
- Judgment by seasoned practitioners of what assumptions are critical to the success of your draft *strategies*, what *actions* upset those assumptions, and what *actions* make a further improvement in your confidence of those assumptions.
- *Strategy* development, including adjustment of alternative draft *strategies* from Chapter 6, to incorporate better data on unknown and uncertain matters obtained through the research, experimentation, and analysis.
- Design of additional alternative draft *strategies* to exploit new understandings and to provide better *strategy* solutions to replace those found wanting upon current evaluation.

This list provides an overview of the type of activities for which resources and permissions are sought.

Approval Authority for Proposal to Develop a Strategy

As discussed on pages 4 and 5 in Chapter 1, we are concerned at this point with obtaining resources and permissions to enable the *Development Staff* to pursue the work program outlined above. We are not seeking approval to actually execute a *strategy*.

The Approval Sequence

As a basis for the work of the *Development Staff* and the *Approval Staff* described in this chapter, the first step is to get approval of the draft of the *Proposal to Develop a Strategy* from the *Development Staff Director*. After the director approves the draft, the next step is for the director to get the appropriate *Approval Authority* for the proposal.

Criteria for Determining the Appropriate Approval Authority

The *Development Staff Director* uses two important criteria to identify the appropriate *Approval Authority* for the *Proposal to Develop a Strategy*. The best person has:

- Real authority to commit resources for the *Proposal to Develop a Strategy*
- An interest in and knowledge about the problem the *strategy* addresses

The *Development Staff Director* is well aware of these considerations. The right *Approval Authority* does not guarantee a successful *strategy*. The wrong *Approval Authority* can be troublesome.

> **Important** The *Development Staff Director* may have a lot more influence on the choice of the *Approval Authority* than the director or others realize.

Building a Profile of Your Approval Authority

As soon as the *Development Staff* knows the identity of the *Approval Authority*, it is in the best interests of the staff to start building a profile of the person. Focus on two areas as you build the profile:

- Legitimate concerns of your *Approval Authority*
- Freedom of action of your *Approval Authority*

> **Important** Do not include any personal or private information in this profile. And take all precautions to protect the content of the profile.

Legitimate Concerns of Your Approval Authority

Along with the authority to approve the commitment of resources, your *Approval Authority* also has a set of responsibilities. These responsibilities include use of good judgment, care in expending resources, and conformance with applicable regulations. In addition, the *Approval Authority's* supervisory chain may also provide specific guidance that the authority is responsible to follow.

> **Important** Find out what you can about the legitimate concerns of your *Approval Authority*. Make sure your proposal directly addresses those concerns.

Freedom of Action of Your Approval Authority

On the other hand, your *Approval Authority* also has a great deal of freedom of action—perhaps more that you imagine. One example is waiver authority for a range of regulations. Your *Approval Authority* may also have regular channels of communication with a number of far-flung organizations upon which your *strategy* ultimately depends for data or even execution.

Because of this freedom of action, it is useful to view the relationship with your *Approval Authority* in the broadest terms. Remember, if your *Approval Authority* even entertains your proposal—and certainly after approving even a piece of it—your *strategy* becomes the *Approval Authority's strategy*, for better or worse.

Range of Activities Your Approval Authority Can Approve

What you really need to find out is the range of activities your *Approval Authority* has the authority to approve. Ask the people who know better than you. Check with your director. Ask the *Approval Staff*. Check with the most knowledgeable person. Ask the domain expert who has expertise about how to get things done in an organization.

Collaboration of Staffs for Approval of Resources

Clearly, preparing the *Proposal to Develop a Strategy* for the *Approval Authority* is a joint product of the *Development Staff* and the *Approval Staff*—a collaboration. The goal of this collaboration is the approval of resources to develop the *strategy*.

Explain and Educate to Avoid Friction

It is important for the *Development Staff* and the *Approval Staff* to keep lines of communication open. The *Development Staff* must take time to explain and educate the *Approval Staff* about the *strategy*. The *Approval Staff* must freely express to the *Development Staff* any concerns about resources and any concerns about the *strategy*. Address any points of *friction* early in the process to avoid negative repercussions down the road.

As discussed in "Difficulties in Funding the Proposal to Execute the Strategy" on page 8 in Chapter 1, it is often the case that the *Approval Staff:*

- Is not familiar with *strategy* work
- Has other claimants on its resources

This is a major cause of *friction* between the *Development Staff* and the *Approval Staff*—and a common failure mode.

Processes and Procedures for Managing Resources

One critical contribution of the *Approval Staff* is to provide information to the *Development Staff* about the processes and the procedures of partner organizations for managing committed resources. The organizations may be commercial, non-profit, national laboratories, in-house, or other types of organizations. Each type of organization has different requirements for handling resources. Each type of organization has different administrative procedures and authorization processes.

A professional proposal makes evident that the *Development Staff* has considered the different requirements and time frames to manage each resource, ensuring that the task components of the *strategy* progress as planned. The *Approval Staff* has an enormous influence in helping the proposal gain approval by giving the *Development Staff* information about these processes and procedures.

Building an Approval Package Designed for Approval

The *Development Staff* and the *Approval Staff* work together to build an **Approval Package for the Proposal to Develop a Strategy** that the *Approval Authority* can approve and sign. The emphasis is on the word "can." The purpose of the staff work outlined so far in this chapter is to give you insight into your *Approval Authority's* concerns and freedoms of action as well as the range of activities your *Approval Authority* can readily approve.

An Approval Package Designed for Approval

Make it as easy as possible for your *Approval Authority* to approve your proposal. As you build the approval package, follow the next procedure to help ensure that the *Approval Authority* gives approval.

To build an Approval Package for Approval Authority approval

1. Make clear the distinction between the *Proposal to Develop a Strategy* and the *Proposal to Execute the Strategy*.
2. Set your resource level at mid-range.
3. Include a section on managing approved resources.
4. Choose a presentation process and recruit your presentation team.
5. Train the team.

Make Clear the Distinction between the Two Proposals

Be sure to include in the *Proposal to Develop a Strategy* a clear and forthright statement that it is a proposal to expend resources to develop a *strategy*. You are not asking for approval to execute any *strategy*—merely to fully develop one.

Also include a statement saying that if the *Approval Authority* approves the *Proposal to Develop a Strategy*, your next steps are as follows:

1. Use the approved resources to develop a sound *strategy*.
2. Create a *Proposal to Execute the Strategy*.

Leave no room for doubt that the *Proposal to Execute the Strategy* is way down the road. It is not up for decision now.

Set Your Resource Level at Mid-Range

It is just plain difficult to get accurate estimates of the resources needed to perform and support staff work. But it can be done, and it needs to be done. You may well need help from outside the staff cadre. Develop a solid estimate built from the ground up. Also estimate your uncertainty and identify what drives the uncertainty.

> **Tip** Puffing up the estimate "just to be on the safe side" is not a professional approach.

If your needs really exceed your estimate of what the *Approval Authority* can approve, deal with that difficulty separately. Sometimes you can have a quiet talk with the *Approval Authority* to confirm or resolve the issue. Often the *Approval Authority* is already aware of the difficulty and has a plan to resolve it. However you come to the resolution, by all means set the resource level request in the mid-range of what your *Approval Authority* can approve.

One time-honored and reasonable way to reduce the resource request is to identify a group of deferred tasks, develop prices for them, and propose to defer their approval until meeting certain concrete conditions, such as:

- Successful completion of earlier tasks
- Availability of next year's funds
- Other events that affect the value or urgency of the enterprise as a whole

Such a forthright proposal is far more attractive than other alternatives. Complaining about the funds available or suggesting a transfer of funds to your project from another project is not attractive to any *Approval Authority*.

Include a Section on Managing and Scheduling Approved Resources

The *Development Staff* may not have much experience in directing the work of others, particularly contractual work, necessary to develop a *strategy*. This is likely a sensitive point with the *Approval Staff*. So by all means, include clear statements about your proposed management processes and explain how they satisfy governing procedural requirements.

Scheduling is a integral component of managing the resources required for your proposed *strategy*. Be sure to include schedule estimates for critical milestones. Managing resources and scheduling go hand in hand.

Include a Section on Data

In the process of the staff work to this point, a lot of valuable data and analysis has been accumulated. Make sure that your data is well-organized, not a jumble. This data is valuable for your next task in developing your *strategy* and also for future staff work in supporting other *strategy* efforts for other *end-point objectives* in the same general domain.

Include a Section Describing Specific Approvals and Actions

With the able collaboration of the *Approval Staff*, list all specific approvals and actions you need from the *Approval Authority*. This can be troublesome if not done with care.

> **Important** Omissions here can bring the *strategy* development to a halt at a very inconvenient moment.

At the End, Highlight Key Issues

All proposals have key issues that generally involve value judgments of one sort or another. You want your *Approval Authority* to be entirely comfortable with how your proposal handles these key issues. Do not hide them. Expose them, the various considerations at play, and the sensible alternatives and then conclude with your rationale for your choices.

Creating a Presentation Package to Close the Deal

Some *Approval Authorities* like to make a big production of the proposal's presentation. You too may like to make a big production. But that is not the only way. Even if a big production is planned, recognize the real value in preparing a quiet, short preview for special audiences.

Choose a Presentation Process and Recruit Your Team

If a formal presentation is desired, you need to prepare a **Presentation Package for the Proposal to Develop a Strategy**. This package covers all salient points in the final version of the *Approval Package for the Proposal to Develop a Strategy*. But the emphasis is on building confidence in the minds of the *Approval Authority* and their direct advisors that the staff work has been professional and complete. In addition, the presentation package needs to point out contentious issues, list alternatives, and present the rationale for your choices.

The *Approval Staff* has a big role in selecting the proper presentation approach. After research to find out about recent experiences with your *Approval Authority,* the staff tailors the presentation approach accordingly.

It generally works best if those who work on the *Draft Alternative Strategy* and the proposal built around the *strategy* are the ones who deliver the presentation. If they are not available or not suitable, the next best option is to recruit additional talent and make them a permanent part of the *Development Staff* or *Approval Staff*. A good staff needs a good spokesperson who really is part of the intellectual effort.

Train Your Presentation Team

Even though the presentation team is knowledgeable in the subject matter, it is essential to train them in the presentation process. In particular, you need to train them how to handle unexpected and difficult questions from various types of listeners, including:

- Listeners who are not steeped in the subject, not comfortable with *strategy* issues, or both tend to ask unusual questions.
- Listeners who object to the *strategy's* purpose or who covet the resources that full execution would garner tend to ask uncomfortable questions.
- Listeners who are really trying to help may make suggestions not yet evaluated by the staff.

Practice is the key. Provide opportunities for the team to practice delivering their presentation. Give them chances to practice answering difficult and even some easy questions from listeners who have different perspectives and who come with different attitudes.

Approval Staff Recommendation to the Approval Authority

The *Approval Authority* most likely knows and respects at least some members of the *Approval Staff*. Moreover, those staff members have significant domain expertise in the rules and regulations governing the approvals and actions sought. Accordingly, it is entirely sensible to have the *Approval Staff* submit its own independent recommendation—the **Approval Staff Recommendation to the Approval Authority**.

This recommendation might be narrowly focused on rules and regulations or it might be more broadly based. It is likely to have a somewhat different perspective than the approval or presentation packages. However the recommendation comes out, it is very helpful to the *Approval Authority*.

Deliverables for Chapter 7

The following are typical deliverables, with the actuals determined by the content of the staff work and the concerns of the *staff director.* The *Development Staff* and the *Approval Staff* are responsible for all except the last deliverable in our list. The *Approval Staff* is solely responsible for making the recommendation about going forward with the proposal.

- *Approval Package for the Proposal to Develop a Strategy*
- *Presentation Package for the Proposal to Develop a Strategy*
- *Approval Staff Recommendation to the Approval Authority*

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Chapter 8
Dealing with Constraints and Obstacles

This chapter describes the continuation and expansion of the staff work covered in Chapter 6, "Assessing Constraints and Obstacles." The term *constraint* and the term *obstacle* denote the realities that interfere with our efforts to achieve our *end-point objective*. They do not, by our choice of nomenclature, include *actions* of our *competitors* or *antagonists*.

Note For a review of our initial descriptions of these terms, see "What are Constraints and Obstacles?" on page 24 in Chapter 2 and "How Do Constraints and Obstacles Differ?" on page 83 in Chapter 6.

Constraints impact the way we can take *actions*. We use the term *constraint* for matters that:

- Curtail the rate at which we can take certain *actions*, such as movement down a road or production of equipment
- Affect the manner in which we can take certain *actions*, such as regulatory prohibitions on certain types of activities

Obstacles may or may not yield to feasible, direct *counter-actions* on our part. We use the term *obstacle* for matters that:

- Are relatively permanent
- Block certain *actions* that we might want to take

This chapter describes some approaches the *Development Staff* can use to identify *actions* that delay, mitigate, or oppose the effects of C&O Items.

Performing a Formal Review of Each Constraint and Obstacle

In the process of developing a *strategy*, the *Development Staff* identifies and deals with C&O Items as discussed in Chapter 6, "Assessing Constraints and Obstacles." Using this background information, the *Development Staff* can now perform a formal review of each C&O Item. The purpose of the formal review is four-fold:

- To develop more in-depth entries for a *Constraints and Obstacles Catalog*, particularly descriptions in sufficient detail to carry out further work
- To assess the likely impact of each C&O Item on each *Draft Alternative Strategy* if no one takes a *counter-action*
- To identify specific aspects of each C&O Item that *antagonists* or *competitors* might plausibly use to facilitate a *counter-action*
- To analyze each C&O Item in terms of how it exposes your own weaknesses and vulnerabilities

This review is a very demanding task. It requires substantial domain expertise and substantial innovative analysis. It does not require the invention of effective *counter-actions*—only the establishment of an accurate, durable foundation for invention by later efforts.

Results of the Formal Constraints and Obstacles Review

The results of this formal C&O Item review are posted into the *Constraints and Obstacles Catalog*. Then identify and evaluate mitigation measures, as described next, and post those mitigation measures into the *Constraints and Obstacles Catalog* as well.

> **Important** This formality drives home the point that inadequate attention to any significant C&O Item can doom an otherwise fine *strategy*.

After posting the review results and mitigation measures of all individual items from the C&O Item review, it is helpful to identify and make a list of those items that appear the most troublesome in their impact on the *Draft Alternative Strategies*, in their difficulty of mitigation, or both. We call this the **List of Critical Impacts on Draft Alternative Strategies**.

Developing a Mitigation Improvement Program

You can mitigate the impact of most C&O Items in several ways. The choice of which way, or group of ways, to actually use is better to make after you consider a fair range of possibilities.

When you prepare a formal **Mitigation Improvement Program**, you can more easily explore and evaluate a wide range of alternatives by:

- Identifying *strategy* adjustments to mitigate C&O impacts
- Identifying specific *counter-actions* to oppose C&O impacts
- Identifying C&O Items with incomplete or no mitigation solutions
- Assessing the practical level of mitigation currently available

It is useful as this work proceeds to develop a description of the scope of the *Mitigation Improvement Program*. This allows *Stakeholders* to judge the depth of your investigation.

Mitigation Improvement Program Report

Use the *Mitigation Improvement Program* to identify and assess the most promising ways to mitigate the impact of your C&O Items. In the **Mitigation Improvement Program Report**, document the results of your analyses and conclusions about each *Draft Alternative Strategy*. Clearly, you must update this report as additional data and analyses become available.

> **Tip** It is a good idea to support your conclusions with the rationale upon which you based your recommendations for improvements in the *strategy*.

Identifying Strategy Adjustments to Mitigate C&O Impacts

The *Draft Alternative Strategies* at this point may be unduly sensitive to some C&O Items. These items may have been previously overlooked. They may have come to the surface only recently. Or they may have been erroneously assessed as not significant. In any case, we always have some hope that feasible adjustments in the *Draft Alternative Strategies* can help mitigate the C&O impacts. Such adjustments occasionally require major changes in the *strategy*.

> **Tip** Do not be surprised by this or reject this approach until you assess the alternatives.

Identifying Specific Counter-Actions to Mitigate C&O Impacts

Specific *counter-actions* are attractive for their directness. You can often estimate their effectiveness with confidence.

The characteristic drawback is the burden of time, effort, and expense of implementing a *counter-action*. If the C&O Item at issue is something an *antagonist might* impose, the uncertainty about the occurrence of a C&O Item clearly adds to the burden.

Identifying C&O Items with Incomplete or No Mitigation Solutions

Assign a high priority to any C&O Item without an adequate mitigation solution. Have faith. You are only one good idea away from success. But do not forget the item! Better to forget the *Draft Alternative Strategy* that is affected. After all, the impact may be larger, more severe, or more systemic than currently assessed.

Assessing the Practical Level of Mitigation Currently Available

An essential element in the *Mitigation Improvement Program Report* is the assessment of the currently available level of mitigation. *Strategy* development resources are allocated to deal with real needs.

If several good solutions to a C&O Item are available, you can shift resources to other items. On the other hand, some items are so critical that permanently funded research programs are established to continually seek better and more confident solutions.

Deliverables for Chapter 8

On an ongoing, periodic basis determined by your *Development Staff Director*, you may be expected to provide the latest updates of certain documents. The following deliverables are typical, with the actuals determined by the content of the staff work and the concerns of your director:

- *Constraints and Obstacles Catalog* (updated from Chapter 6)—with mitigation measures and descriptions adjusted as needed to provide sufficient detail to carry out further work
- *List of Critical Impacts on Draft Alternative Strategies*
- *Mitigation Improvement Program*—with a description of its scope
- *Mitigation Improvement Program Report*

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Chapter 9
Analyzing and Improving Strategies

Strategy development is very much a design matter. You have a problem; you seek a decent solution. You have one or more *opponents* trying to foil your solution. You analyze what your *opponents* could do, what the random world could do, and then you discover vulnerabilities in your *Draft Alternative Strategies*.

Your obvious next step is to adjust the *strategy* to reduce your vulnerabilities and to interfere in your *opponent's strategy*. In *strategy* development, the analysis and the improvement go hand in hand.

> **Important** Unless you have good insight into your opponent's goals and ways of thinking, you cannot effectively reduce your vulnerabilities to your opponent's efforts, nor can you foil your opponent's strategy. Mirror-imaging your opponent is always a danger.

> **Tip** Keep in mind that this *strategy* adjustment phase is the last time the *Development Staff* has any real control of the *strategy*.

Analyzing Draft Alternative Strategies

Many good methods are available to analyze and evaluate the general viability and value of *strategies*. We address viability and value by thinking ahead to the approval of a really good *strategy* and the eventual execution of that *strategy*.

Content of the Draft Strategies

The staff work starts with the deliverable from Chapter 4, *Draft Alternative Strategies*—three to 10 pages for each alternative, including:

- *Starting Point Lists*
- *End-point objective* choices and rationales
- Important *actions* leading to *intermediate objectives*
- Assessments of the *strategies*

The staff work ends when you run out of time or ideas or both.

Perspectives of the Approval Authority and the Execution Agency

Strategies affect a lot of diverse *Stakeholders*, with emphasis on the word "diverse." Accordingly, each of these diverse *Stakeholders* has a somewhat different perspective on the overall strategy effort—and on each of the *Draft*

Alternative Strategies. Although each case is different, some general observations can be set down for two important *Stakeholders:*

- *Approval Authorities* generally are concerned with avoiding expenditures that do not result in useful products. As a result, they focus on the early *actions* in the *Draft Alternative Strategies* and ask questions such as, "Are the *proximate objective* and early *intermediate objectives* valuable in their own right if the overall *strategy* is abandoned or does not succeed?"
- *Execution Agencies* generally are concerned with the feasibility of execution and ask questions such as, "Are the *actions* assigned to us within the technical capabilities of our workforce and are the *actions* fully supported with resources?"

Useful Analysis and Evaluation Methods

Three very useful methods to analyze and evaluate a *strategy* are the following:

- Look for good and bad characteristics.
- Analyze and evaluate against common failure modes.
- Analyze and evaluate against problem-specific failure stresses.

> **Tip** Using a combination of these methods optimizes your success in choosing the most viable and valuable *strategies*.

Look for Good and Bad Characteristics

It is not easy to keep track of everything when you create new drafts and revisions of your alternative *strategies*. Review "General Characteristics of Good and Bad Strategies" on page 34 and Table 5 in Chapter 2. This is a good time to double-check and make sure your current *Draft Alternative Strategies* in the *Proposal to Develop a Strategy* qualify as "good *strategies*."

Analyze and Evaluate Against Common Failure Modes

What we mean by a "common" failure mode is that it is a generic type of failure, recognizable for its attributes and recognizable as a similar phenomenon across many applications. Top-level, common failure modes are usually surprises.

When analyzing and evaluating a *strategy*, look for these common failure modes:

- The *opponent's* counter-strategy is stronger or more enduring than your *strategy*.
- Your *strategy* design is superior, but its execution proves it is too difficult for the execution leadership or *Execution Agency* to carry out successfully.
- One or more key assumptions or estimates turn out wrong to an important degree.
- The resources committed to execute the *strategy* are inadequate or unbalanced.
- The provisions for dealing with C&O Items are inadequate.
- The inevitable *friction* that plagues all execution is too much.

Analyze and Evaluate Against Problem-Specific Failure Stresses

Each *strategy* problem has specific failure stresses that arise from the content of the domain. Domain experts can help identify areas that generate failure stress, if not the specific failures that might result.

When analyzing and evaluating a *strategy*, look for these problem-specific failure stresses:

- Dependence of the *strategy* on output from intelligence services that have concurrent allegiance to organizations with conflicting *objectives*
- Dependence on physical and natural phenomena that are poorly understood, even if lavishly supported
- *Actions* that impact differentially on distinct groups of *Stakeholders*
- Regions and peoples who are poorly governed, whether rich or poor

Analyze at the Action Level Using Game Theory Concepts

As noted in "Using Some Concepts from Game Theory" on page 37 in Chapter 2, you can use of the structure of game theory—not the mathematics of game theory—to analyze the *strategy* at the *action* level. The next box details a procedure that applies game theory to *strategy* formulation.

Using Game Theory in Strategy Formulation

1. Evaluate your potential *actions* against your *opponent's* potential *actions* to discover major upside opportunities and major downside risks. Judgment and knowledge of your *opponent* is needed in deciding which potential actions to include in this evaluation.
2. Improve the risk assessment outcome, keeping in mind that your *opponent* often gets to move last, by doing the following:
   - Adjust the content of your *actions* to guard or hedge against injurious *actions* available to your *opponent*.
   - Add *actions* to your *strategy* as needed.

   > **Note** For normal two-person game theory, in this step you "play" each move with a mathematically determined probability to balance between gain and risk. For *strategy* development, the focus is on adjustment and innovation to improve your own outcomes.

3. If some potential future circumstances or *opponent actions* have major downsides, even if very unlikely, look for preparatory *actions* to block or mitigate their injurious impacts.
4. Evaluate whether preparatory *actions* are a sound investment, by considering:
   - Timing and cost
   - General feasibility of the *action*, including the possibility of *friction*, C&O impacts, and other downsides
5. Identify *actions* that you can take, now or in the execution phase, to determine the following for each of the injurious potential futures:
   - Its likelihood of occurring
   - When it might happen
   - When you might find out it happened
6. Identify promising *actions*, including the following:
   - *Actions* that look out for likely or worrisome troubles, such as execution failures, unfavorable circumstances, and effective *counter-actions*
   - Contingent *actions* to respond to such troubles

Box 10. Using Game Theory in Strategy Formulation

Important In deciding how broad a range of potential futures to consider in game theory analysis, you have two opposing considerations. If the range is too narrow, you run the risk of overlooking a future *action* by your *opponent* that undercuts your *strategy*. If the range is too broad, you run the risk of getting bogged down in paralysis by endless analysis.

Making Improvements Where You Find Weakness

Making improvements where you find weakness is really the key to the activity in this chapter. The analysis is only of passing interest unless and until it leads to changes in the *strategy* to improve the *strategy*.

How to Know When You are Done

Strategy development is a creative art. You can go on improving the product indefinitely. In most cases, when you have a pretty decent product, you are done when you run out of time.

If you run out of time and your best product still has deep, demonstrable flaws, you must have the courage to admit failure. Perhaps another team can do better. Perhaps the problem is too hard or it has too tight a set of C&O Items.

Documenting Your Work

The main effort covered in this chapter is to update and improve the *Draft Alternative Strategies* designed in Chapter 4. To document this work, update the *Draft Alternative Strategies* from Chapter 6, including the descriptions and rationales for changes and descriptions for any new alternatives.

The effort to improve the *strategies* likely improves the C&O Item mitigation situation. That result is captured as a deliverable in Chapter 8.

Deliverables for Chapter 9

Typical *Development Staff* deliverables are the following periodic reports, showing the latest updates for each *strategy*. The actual reports are determined by the content of the staff work and the concerns of the *Development Staff Director and Approval Staff Director:*

- *Draft Alternative Strategies* (updated from Chapter 6)—with descriptions and rationales for changes and new alternatives as well as latest findings from ongoing work with C&O Items
- *Mitigation Improvement Program Report* (updated from Chapter 8)

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Chapter 10
Building Support and Approval to Execute

As you complete the development of your *strategy* and approach the creation of the *Proposal to Execute the Strategy*, it is time to pay close attention to the status of your *support base*. In "Improving the Support Base" on page 80 in Chapter 5, we described the establishment and upkeep of a *Support Base Improvement Program*. Now we focus on building your *support base*.

This chapter provides guidance and advice about activities for the *Development Staff* and *Approval Staff* to build a strong *support base*. These activities are especially important in anticipation of the major proposal and approval effort to execute the *strategy*.

We also provide guidance and advice about activities to create a professional *Proposal to Execute the Strategy*. The approval of your proposal to execute your *strategy* is a major event. It may be very public, may engender strong reactions both pro and con, and may cause shifts in your *support base*.

Approval Authority for the Proposal to Execute the Strategy

Approval of the *Proposal to Execute the Strategy* follows the same process as the approval of the *Proposal to Develop a Strategy*. The *Development Staff Director* approves the draft and then tries to influence the selection of the appropriate *Approval Authority* for the proposal.

The *Approval Staff* has an important role in crafting the proposal in a form suitable for presentation to the *Approval Authority*. In this regard, the *Approval Staff* also prepares a separate staff recommendation as to the appropriate activities for the *Approval Authority* to approve.

Criteria for Determining the Appropriate Approval Authority

The *Approval Authority* for the *Proposal to Execute the Strategy* has much more responsibility than the *Approval Authority* for the *Proposal to Develop a Strategy*.

> **Important** The *Approval Authority* for the *Proposal to Execute the Strategy* typically handles 10 times the resources and has 100 times the visibility of the *Approval Authority* for the *Proposal to Develop a Strategy*.

The stakes are high. Keeping this in mind, the director identifies the best *Approval Authority* for the *Proposal to Execute the Strategy* based on the same criteria used for the *Proposal to Develop a Strategy*. The appropriate *Approval Authority* has:

- Real authority to commit resources for the *Proposal to Execute the Strategy*
- An interest in and knowledge about the problem your *strategy* addresses

Remember. The right *Approval Authority* does not guarantee a successful *strategy*, but the wrong *Approval Authority* can be troublesome.

Build a Profile of the Approval Authority

After selection of the *Approval Authority*, learn as much as you can about the authority by following the same guidance provided in "Building a Profile of Your Approval Authority" on page 90 in Chapter 7. The *Approval Authority* profile is critical to best shape your proposal for approval.

Reviewing Your Support Base Documentation

Three documents useful for tracking the status of your *support base* are described in Chapter 5, "Assessing Knowledge and Support Bases":

- *Support Base Catalog*
- *Support Base Improvement Program Report*
- *Support Base Weakness Assessment*

Review the current versions of these documents and bring them up to date with the current versions of the *Draft Alternative Strategies* you expect to carry forward into the *Proposal to Execute the Strategy*.

> **Important** Pay special attention to changes that impact any *Stakeholders* or that might cause *Stakeholders* to worry about the direct impact these changes have on them.

As the major decision approaches, sensitivity heightens. Matters that were worrisome but tolerable to some *Stakeholders* in the early stages of *strategy* development may require a more critical evaluation as the reality of *strategy* execution draws near.

Acting on the Outcomes of the Review

After you carefully review your documents and bring them up to date, you need to further address the changes. This section describes the areas where it is important for you to follow up on the outcomes of the document review.

Updates for Stakeholders

In most cases, updating *Stakeholders* is more of a courtesy than a troublesome event. And it is a necessary courtesy. *Stakeholders* want to be involved and they almost always can be very helpful with data and perspectives.

Updates can take various forms, including more or less formal presentations. Whether or not you decide to include a presentation depends on the needs of a particular *Stakeholder*. One deliverable for this chapter is **Presentation Materials** that you tailor for different *Stakeholders.*

Note Be aware that *Stakeholders* may adopt a skeptical public attitude to get your attention and to satisfy their own constituencies.

If your updates contain information or worries that affect *Stakeholders* in a substantive manner, present the updates as a positive event. Provide *Stakeholders* with a foundation for accepting the change, continuing their support for the *strategy*, and increasing their support.

Update the Support Base Improvement Program

The *Support Base Improvement Program* is a program you must continually update. As the content of the *strategy* evolves during its development, the content of the *Support Base Improvement Program* evolves. Such changes and additions are natural and expected.

Note For more information about this program, see "Support Base Improvement Program" on page 80 in Chapter 5.

Add Relevant Items to the Proposal to Execute the Strategy

In the *Proposal to Execute the Strategy*, include a summary of the latest *Support Base Weakness Assessment*. Accompany this summary with a description of pending and recommended activities intended to remedy the weaknesses.

The *Approval Authority* wants your assessment of the support likely from each *Stakeholder* and wants recommended actions to bolster that support. Remember, *Stakeholders* are individuals and organizations with a legitimate interest in the content and execution of the *strategy*. *Stakeholders* provide tangible support to the execution of the *strategy*, are impacted by execution of the *strategy*, and oversee activities impacted by execution of the *strategy*.

Another item to include in the *Proposal to Execute the Strategy* is an assessment of all active opposition to approval of the *strategy*. Opposition can come from *antagonists* who oppose your pursuit of the *end-point objective* or *competitors* who covet the resources consumed by the execution of the *strategy*.

Tone and Approach for the Presentation and Proposal

Because the consequences of approval to execute the *strategy* are substantial, it is important to carefully select the tone and approach of the *Presentation Materials* and proposal. This section offers some proven items of advice.

- Omit distracting details.
- Match your proposal to your *Approval Authority*.
- Demonstrate respect for the concerns of your *Approval Authority*.
- Acknowledge critical uncertainties.
- Address the choice of the *Execution Agency* and top-level governance.

Omit Distracting Details

Never burden the approver with the history of how you came to your set of *Draft Alternative Strategies*. Your trials and tribulations are of no interest to anyone but yourself. A recitation of this history obscures your main proposal.

Match Your Proposal to Your Approval Authority

Only propose what your *Approval Authority* can reasonably agree to at this stage in the *strategy* development and what is within the purview of the *Approval Authority*. If this is too much of a *constraint*, for whatever reasons, you must mount a determined effort to adjust the approval process. This could well become an irregular effort to bypass a reluctant approver.

Demonstrate Respect for Concerns of Your Approval Authority

Include in your *Presentation Materials* explicit coverage of the known and suspected concerns of your *Approval Authority*. Explicit coverage relieves emotional tension and allows concentration on other important aspects of your proposal. You may later get guidance to handle some of the concerns in a different manner, but your show of respect is recognized as professional.

Acknowledge Critical Uncertainties

In any major *strategy*, uncertainties exist. Acknowledge them in a manner that shows deep understanding of their nature and their possible impact. Describe the aspects of the *strategy* that contain the impact of these uncertainties. Describe the situations where you can use specific methods to reduce the magnitude of the uncertainties.

Address the Choice of Execution Agency and Top-Level Governance

A good *Execution Agency* is one that understands and matches well with your *strategy*. This improves the proper execution of your *strategy*. As part of the *Development Staff* or *Approval Staff*, your chances for advising on the choice of an *Execution Agency* are slim. In particular, you are not likely to know the prospective workload of candidate agencies or their track record of performance on similar projects.

On the other hand, as staffs now well-steeped in the subject matter of the *strategy*, you do have insight into the critical features of the execution phase of the *strategy*. So it is reasonable and useful for you to include in your presentation and proposal some "considerations" regarding the selection of the *Execution Agency*.

Similarly, it is reasonable for you to include some "considerations" on what we call the **governance structure** into which the *Execution Agency* fits. By governance structure we mean the system of authorities and responsibilities set up for your particular *strategy* execution. It is likely a well-known and well-exercised structure. But very often, because the *strategy* calls for new *actions* by newly created execution entities, the governance structure itself is novel.

It is common to form new *Execution Agencies*, just for the occasion, to carry out *strategies* of uncommon *objectives*. And these new *Execution Agencies* often have unusual top-level governing boards. Such governing boards serve to bring prestige, political support, and domain expertise to the enterprise.

The Proposal to Execute the Strategy

The *Proposal to Execute the Strategy* is the centerpiece of the *strategy* development effort. It contains all of the following and more:

- A full description of the *strategy*—the set of *actions* and *objectives* that lead to achievement of the *end-point objective*
- A description of other viable alternative *strategies*, along with the rationale for choosing among the alternatives
- A summary of the work on C&O Items completed for Chapters 6 and 8
- Descriptions of how to execute the *strategy* and the composition of the *Execution Team* and its *governance structure*
- Descriptions of how to measure and report progress
- Descriptions of recommended and prepared *actions* in response to various possible setbacks and failures
- Descriptions of how to deal with different types of *opponents* as the *strategy* is executed

Deliverables for Chapter 10

The deliverables for this chapter focus on building your *support base* and creating, with the right tone and approach, *Presentation Materials* and the *Proposal to Execute the Strategy*. Typical deliverables for the *Development Staff* and the *Approval Staff* are the following, with the actuals determined by the content of the staff work and the concerns of the *Development Staff Director and the Approval Staff Director:*

- *Support Base Catalog* (updated from Chapter 5)
- *Support Base Improvement Program* (updated from Chapter 6)—including past, scheduled, and future contacts with *Stakeholders*
- *Support Base Weakness Assessment* (updated from Chapter 5)—including descriptions of key sources of opposition and assessments of their importance
- *Proposal to Execute the Strategy*—with a description of the proposed *strategy* and any viable alternatives along with their rationales, strengths, and weaknesses plus estimates of resources and time to achieve success
- *Presentation Materials*—description of various forms suitable for various audiences, covering the content and key concerns raised by the *Proposal to Execute the Strategy*

All these deliverables are working papers for the *Development Staff* and *Approval Staff*.

> **Important** These deliverables are not suitable for wider distribution by the *Development Staff Director* or the *Approval Staff Director*. The *Approval Authority* determines the release of these deliverables, which is generally piecemeal.

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Chapter 11
Evaluating Quality of Staff Work

Approval to execute a major *strategy* carries many serious implications—commitments of substantial resources, policy and priority choices, announcements, and disapproval of alternative *actions*. Because of these responsibilities, the completeness, accuracy, and relevance of the staff work underlying the approval decision are major issues.

This chapter presents some advice and guidance to ensure that staff work meets the high standards of professionalism appropriate to the gravity of the approval to execute. The evaluation activities described in this chapter are best conducted by a group of senior persons who are not involved in the *strategy* development effort that is just now coming to completion.

Setting Up an Outside Review Team

The *Development Staff* and *Approval Staff*, in collaboration, have the task of identifying and proposing suitable senior persons for the outside **Review Team**. Final selection rests at the *staff director* level or higher.

> **Note** For some guidance and advice about selecting senior persons in general, see "How to Find, Recruit, and Use Expert Help" on page 31 in Chapter 2.

Not surprisingly, the best criteria are the person's notable successes in prior efforts of a similar nature and enthusiasm for this particular activity.

Evaluating the Quality of the Proposal

Before submitting the proposal for approval, it is important to evaluate the quality of the *Proposal to Execute the Strategy* to identify and clarify any weak areas. Typical activities toward this end are as follows:

- Identify and assess the criticality of all assumptions and asserted data inherent in the proposal.
- Estimate the accuracy or veracity of the critical assumptions and data.
- Examine the logic of the proposal and identify apparent flaws.

Evaluating the Quality of the Proposed Strategy

It is equally important to evaluate the quality of the *strategy* to optimize your proposal's success for approval. Typical activities toward this end are as follows:

- Identify likely failure modes and evaluate how your *action* plan deals with each one.
- Identify *off-ramps*, the criteria for using them, and their likely outcomes.

> **Note** For an example of an *off-ramp*, see "Off-Ramps and Backup Plans" on page 41 in Chapter 3. For details about two types of *off-ramps*, you may want to look ahead to "Using Off-Ramps for Major Changes in Circumstances" on page 129 in Chapter 14.

Documenting the Work of the Review Team

The members of the Review Team—all experienced and senior persons—are likely to choose to document their findings and concerns in their own fashion. However, it is useful to develop, with their collaboration, a set of documents that lay out any addendums and alternatives to the *Proposal to Execute the Strategy*. Examples of such documents are the deliverables for this chapter.

Deliverables for Chapter 11

The *Approval Staff* can have an enormous effect on the chance of success in gaining approval for the *strategy*. The deliverables here are the supporting documents that clarify issues and help the *Approval Authority* understand the *strategy* and its worth.

Typical deliverables are the following, with the actuals determined by the content of the staff work and the concerns of the *Approval Staff Director:*

- **Addendum with Corrections for Errors of Omission and Commission to the Proposal to Execute the Strategy**—seeks to correct perceived errors of omission and commission in the substance of the *strategy*
- **Alternative to the Proposal to Execute the Strategy**—seeks to reduce perceived risks in the original proposal, for example, by implementing incremental approval at this time based on specific future events
- **Addendum to the Supporting Technical Actions for the Proposal to Execute the Strategy**—seeks to improve some technical aspects of supporting functions, such as financial, regulatory, legislative, and public relations *actions*
- **Approval Staff Recommendation for the Proposal to Execute the Strategy**—seeks to provide an independent recommendation from the perspective of resource consumption and overall consequences if the proposal is approved

Part Three

Executing the Strategy

Chapter 12
Building an Execution Team

In this chapter, we begin with the approval of the *Proposal to Execute the Strategy* and cover subsequent *Execution Staff* activities to build what we call an *Execution Team*. This *Execution Team* is an assembly of a number of individuals and organizations charged with execution of the newly approved *strategy*.

Some of the organizations exist apart from the newly approved *strategy*. Indeed, it is common for the *Approval Authority* to charge an existing organization—called the *Execution Agency* in earlier chapters—with a major role in the execution of the *strategy*. That charge is usually part of the approval process for the *strategy* execution.

This chapter gives some examples, both historic and generic, of *Execution Teams* and procedures. It also provides some guidance and advice on how to assemble a first-rate *Execution Team* and how to equip it with suitable procedures.

Components of the Execution Team

A full *Execution Team* has many components and all must work together. The team usually consists of some groups newly established specifically for the execution of your *strategy*. The following list shows the breadth of the individuals and organizations that are typically part of the *Execution Team:*

- *Execution Agency*—our name for the principal performing organization
- Augmenting agencies—other operating organizations that provide specialized services or additional effort
- **Dedicated units**—our name for very specialized organizations with relatively fixed responsibilities; may be subunits of one of the performing organizations listed above
- Top-level board of individuals—to provide very senior oversight and advice; typically, established by the *Approval Authority* who serves as its active or *pro forma* chair

The activities of the *Development*, *Approval*, and *Execution Staffs;* their respective *staff directors;* and the *Development* and *Approval Agencies* are critical. These groups complement the *Execution Team*.

A Mixture of Procedures

With this wide assembly of team members, it is easy to understand why most teams operate under a mixture of procedures—a mixture of existing procedures, modified procedures, and novel procedures. The mixture of procedures is widely viewed as essential to the success of the *strategy*.

> **Note** For examples of existing and novel procedures, see "Ballistic Missile and Space Races of the 1950s" on page 43 in Chapter 3.

Role and Value of the Execution Agency

Choosing the right *Execution Agency* is critical because it improves the proper execution of the *strategy*. In making this decision and working with the agency, it is an advantage to understand the thinking of those in the agency. In "Perspectives of the Approval Authority and the Execution Agency" on page 101 in Chapter 9, we provide insight to help guide your work in this area.

Sometimes the best choice is an existing organization, sometimes not.

> **Note** For information about the value of choosing an *Execution Agency* matched to your *strategy,* see "Address the Choice of Execution Agency and Top-Level Governance" on page 110 in Chapter 10.

Benefits of Using an Existing Execution Agency

An existing *Execution Agency* can bring valuable characteristics to the success of your *strategy*, such as:

- Established business and operating processes
- Established logistics, housing, and communications
- Established facilities appropriate to your *strategy*
- Personnel with domain expertise working with the same or a similar problem, *strategy* solution, or both

Potential Problems of Using an Existing Execution Agency

But experience teaches us about potential problems when using an existing *Execution Agency*, such as:

- The organization itself may be satisfactory, but it may have commitments to other activities not compatible with the execution of your *strategy*.
- The organization may be governed by a culture and regulations that lead to slower execution than what your *strategy* requires.
- Certain specialized capabilities needed for execution may not be in place. Can the organization add these capabilities in a timely manner?

Challenges When Using an Existing Agency

Beyond the concerns about using an existing *Execution Agency*, the *Execution Staff* faces other major difficulties when working with the *Execution Agency*. The difficulties discussed in "Understanding and Working with the Execution Agency," on page 11 in Chapter 1, apply and are summarized here.

- The domain experience of the organization can lead its leadership to disagree with certain conclusions and judgments of the *Development Staff* and *Approval Staff*, and to disagree with related decisions. If this happens, the *Execution Staff* must expend a lot of effort to deal with these disagreements.
- Time *constraints* mean the organization often is not adequately prepared. Resource *constraints* limit the organization's ability to carry out the execution of the *strategy*.
- A "convincing" explanation of the value of the *strategy's objective* or the rationale for the *strategy's* approach may not have addressed the interests of the *Execution Agency*.
- The *Execution Agency* rank and file or even the agency leadership may resent the intrusion of this new, unknown, and unwelcome task. Unsatisfactory efforts, pushback, or refusal to execute at least some aspects may result in failure of the *strategy*.
- Any culture change required of the workforce can produce resistance when people are told to rely upon new, unknown, and untried assumptions and *actions* for their lives and livelihoods.

In light of these potential problems, it is not unusual to set up a new organization as the *Execution Agency*. However, this effort requires ample time, resources, and talent.

Role and Value of a Top-Level Board

A common organizational arrangement is to appoint a special, top-level board to oversee and assist in the execution of the *strategy*. Such boards bring prestige to the enterprise, important history and understanding, domain expertise, wisdom, and connections.

The care and management of such boards is an art form. It requires a skilled executive secretary.

Some examples of top-level boards that contribute to the *Execution Team* are the following:

- Teapot Committee, a classic example
- The standing technical board of the *Execution Agency*
- A business-oriented board in a commercial setting

Note For details about the Teapot Committee, see "The Air Force Program" on page 44 in Chapter 3.

Role and Value of the Execution Staff

We introduce the concept of the *Execution Staff* in "Role of the Execution Staff" on page 9 in Chapter 1. With respect to the central role and value of the *Execution Staff*, note the following:

- The *Execution Staff* belongs to the *strategy*, not to the *Execution Agency*. The *Execution Staff* is not the staff of the leadership of the *Execution Agency*. For example, the *Approval Authority*, who has a real interest in seeing that the *strategy* is executed successfully, could set up what we call the *Execution Staff* to provide continuing oversight and to report directly back to the *Approval Authority*.
- The mission of the *Execution Staff* is to oversee, on behalf of all *Stakeholders*, proper and successful execution of the approved *strategy*.
- The first priority task of the *Execution Staff* is to determine what is really happening during the execution of the *strategy*. The *Execution Staff* accomplishes this task by gathering new data and then measuring and reporting progress, which is covered in Chapter 13.
- The second priority task of the *Execution Staff* is to alert the residual *Development Staff* about any impending need to adjust the *strategy* in light of conditions on the ground, and to deal with failures to properly execute some critical *actions*.

Augmenting the Execution Agency

It is common to augment the *Execution Agency* with specialized effort from individuals and organizations to fill gaps in capabilities. Often, the *Execution Agency* augments the *Execution Team* with a dedicated unit to handle specific functions and provide a missing capability. Members of this *ad hoc*, dedicated unit are often selected from existing companies and agencies.

In choosing and recruiting to augment the *Execution Agency*, heed the following advice:

- All first-rate contributors need to believe in the *strategy* before you can expect them to join the team. Do not short-change this step. Take time to explain the *strategy* to them. Listen to their suggestions for improvement in the *strategy*.
- If you make a mistake in selecting people, you can replace or ignore them. But organizations are very, very difficult to move out of the way. It is equally difficult to adjust the culture of an organization.

Documenting the Work of Chapter 12

Much of the trouble that arises from errors in building the *Execution Team* relates to agreements, absent or incomplete, between members of the team. The members are semi-autonomous most of the time, but need to work ever so closely together on the execution of this particular *strategy*. The typical deliverables set forth in this chapter deal with only some of the points of disagreements and disconnects seen in major *strategy Execution Teams*.

The terms "binding agreement" and "binding commitment" are meant to imply that the agreements and commitments are between semi-autonomous entities and are intended to be self-enforcing. That is, penalties for breaking the agreements and commitments are built into the documents themselves. Do such penalty statements guarantee compliance? Not really. Do they help a lot? Experience says they do.

Deliverables for Chapter 12

Because substantial resources and consequences are at stake in the actual execution of the *strategy*, expect a substantial amount of formality in certain documents. The following key formal documents are typical deliverables of the *Execution Staff*, with the actuals determined by the content of the staff work and the concerns of the *Execution Staff Director:*

- **Execution Agency Agreement to Undertake the Strategy**—a binding agreement with appropriate terms and conditions as well as operating procedures in sufficient detail to satisfy the *Approval Authority* and the *Execution Staff* on behalf of *Stakeholders*
- **Approval Authority Resource Commitment Agreement—**a binding commitment to provide resources along with the financial procedures to handle the resources
- **Stakeholders' Staff Support Consensus Agreement**—a consensus document to establish and support a particular embodiment of an *Execution Staff* that includes investigative and reporting procedures
- **Approval Authority Augmentation of Execution Agency Consensus Agreement—**a consensus document to establish procedures for augmenting the *Execution Agency* with additional individuals and organizations as necessary

The *Execution Staff* is responsible for drafting these documents and getting the relevant parties to agree to them in a timely manner.

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Chapter 13
Measuring and Reporting Progress

During the execution of a *strategy*, we expect some *actions* not to go according to plan. Indeed, some of the important design features of a *strategy* are intended to hedge against failures of execution by mitigating their impact and reducing their likelihood.

Accordingly, measuring and reporting progress is a central part of the execution process. In most *strategies*, some *actions* are dedicated to resolving ambiguities and uncertainties.

A steady stream of new information is generated during execution for this purpose. This new information forms the basis for tracking the progress of the *Execution Team* toward the *end-point objective*. If circumstances dictate, this information forms the basis for necessary re-design of the *strategy.*

> **Important** The execution phase of a *strategy* almost always entails revisions of the *strategy*—in small ways or big. Successful execution is very much about adjusting to new data, new understandings, and new opportunities. Chapters 13, 14, and 15 cover some ways to facilitate these revisions.

This chapter describes four useful approaches to measuring and reporting progress:

- Designing *actions* and *objectives* within the *strategy* to facilitate measurement of progress
- Maintaining a culture of integrity
- Using parallel reporting channels
- Keeping responses positive

All these approaches are best built into the *Proposal to Execute the Strategy.* This chapter provides guidance on the use of these techniques to measure and report progress during the execution phase.

Designing the Strategy to Facilitate Measurement

In "Concise Name and One-Sentence Description" on page 71 in Chapter 4, we discussed a key point about the *end-point objective*—to make its achievement clear and unambiguous. To effectively measure progress toward an *end-point objective* through the array of *proximate objectives* and *intermediate objectives*, you must state every *objective* in your *strategy* clearly, succinctly, and unambiguously.

Clarify the Statements of Your Objectives

The *Development Staff* aimed for clarity in the *strategy* design, but it is likely that some clarity was lost during revision processes. Check for clarity and then edit the statement of your *end-point objective* as needed to optimize the chances for meaningful measurements.

All *proximate objectives* and *intermediate objectives* are steppingstones to further *actions*. The critical measurement of achievement determines whether those further *actions* can now take place. This means you must measure achievement, not effort. And to do this, your *proximate objectives* and *intermediate objectives* must be clear. Edit their statements to optimize the chances for meaningful measurements of those *objectives*.

Measure the Progress of Lower Level Actions and Objectives

You can view many large and important *actions* in more detail as nested *strategies.* These *strategies* are a network of lower level *actions* and *objectives*. When you design the *objectives* of nested *strategies* to reveal unambiguous achievement and describe the *objective* with a clear statement, you can reliably measure progress toward achievement of the larger *objective*.

> **Note** For more information about nested *strategies*, see "Nested Strategies and Responsive Actions" on page 25 in Chapter 2.

Maintaining a Culture of Integrity

As is well known, maintaining a culture of integrity is a leadership matter. It is generally helpful for the leadership to create a formal statement that contains a commitment to integrity. The essence of the matter is leadership and determination. Without a culture of integrity, reports of bad news—the most important kind of reporting—are likely to be late or distorted, or they may otherwise lack the candor needed for effective execution.

Using Parallel Reporting Channels

Parallel and somewhat independent reporting channels are routinely suggested as a way to discourage biased or self-serving reports of progress. In that role, parallel channels are generally successful.

Advantages During Execution

If properly designed, parallel channels can provide reporting from complementary perspectives, thus enhancing the breadth and depth of the information. The *Execution Team's* and, independently, the *Execution Staff's* use of parallel reporting channels to enhance information is critical in the execution phase.

> **Important** Reports of very serious news—news that calls for changes in the *strategy*—must provide details in sufficient breadth and depth to support such changes.

A Novel Technique

In the case of the Navy Ballistic Missile Program, young naval lieutenants fresh from their Masters in Engineering degree studies, are given free access to all program areas and told to look for troublesome situations. They are then told to stand in the back of the room at all program reviews and interrupt the proceedings if they hear anything that appears erroneous or distorted in the presentations. The procedure keeps the presentations crystal clear and teaches the lieutenants a great deal.

Note For information about this Navy program, see "The Navy Ballistic Missile Program" on page 46 in Chapter 3.

Keeping Response Positive

Even minor pieces of bad news deserve a positive response. Chapter 14 describes some generic, positive responses to serious surprises and setbacks that can occur during execution.

Look for root causes of one failing to help recognize and uncover impending trouble in other activities. Similarly, you can use the design of recovery *actions* in one case as a basis for a better design in another case.

Deliverables for Chapter 13

The *Development Staff* is primarily responsible for setting up the *strategy* so that its *actions* and *objectives* facilitate the measurement of progress. During the execution phase, the *Execution Staff* is primarily responsible for measuring progress and reporting progress to the *Stakeholders* as appropriate and whenever appropriate. The *Execution Team* is also responsible for measuring and reporting progress as part of its effort to execute the *strategy* effectively.

These two reports, through different channels and from different perspectives, are sometimes in conflict and require resolution.

The following are typical deliverables the *Execution Staff* uses during the execution phase, with the actuals determined by the content of the execution activities and the concerns of *Stakeholders:*

- **Assessment of Design Features of Actions and Objectives—**periodic reports about the adequacy of the design features intended to facilitate monitoring and measuring progress in execution, with a view toward improvements in the design
- **Assessment of Practices in Measuring and Reporting Progress—** periodic reports about the practices used by members of the *Execution Team* with respect to promoting a culture of integrity, maintaining parallel and independent reporting channels, and responding to bad news in a positive manner, with a view toward improvements as needed
- **Report on Actual Progress in Execution—**periodic reports on actual progress toward the *end-point objective*

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Chapter 14
Surprises and Setbacks During Execution

In any complex *strategy* problem that warrants the execution of multiple *actions* over time, expect surprises—both good and bad. Accordingly, your *strategy* execution apparatus needs robust means to deal with these surprises.

This chapter describes methods for dealing with some generic types of surprises, setbacks, and ongoing difficulties of execution. These methods are grouped in the following categories:

- Setbacks driven by the *actions* of active *opponents*
- Opposition by nay-sayers
- True surprises
- New opportunities to pursue new *objectives*
- Major changes in circumstances

Setbacks Driven by Active Opponents

Suppose your *opponents* are *antagonists* or *competitors*, which we defined in Box 4 "Who and What are Opponents?" on page 22 in Chapter 2. The mission of *opponents* is to derail your *strategy* during its execution. Accordingly, your *Execution Team* needs two dedicated units to deal with these types of *opponents:*

- One unit has the mission to identify the *opponents'* likely and effective *actions* against your *strategy*.
- The other unit has the mission to identify, develop, and advocate sensible preparatory steps to deploy **counter-measures** against the injurious *potential actions* of your *opponents*.

You can identify most setbacks as possibilities well in advance. You can often estimate when each possible setback would be manifest, if it were to happen. For each setback, the *Execution Team* prepares a planned response (or more than one) well before the setback is manifest. If the response has material impact on schedule, resources, or *Stakeholder* sensibilities, share it with your *Approval Authority*.

You can block some potential setbacks in advance by using new, specially designed *actions* within the *strategy*. These *actions* generally have resource costs and may also have other costs, such as alerting *opponents* to certain matters best kept secret.

If and when a setback does occur, the prepared response forms a baseline for consideration. It is likely that the details of the actual setback require a somewhat different response. However, familiarity with the prepared response generally reduces the call for panic reactions by the *Stakeholder* community.

Other situations, such as those studied by John Boyd, have a high premium on a fast response—but not at the expense of being a correct response. Many combat situations require responses that are both fast and correct.

> **Note** For references to works about John Boyd, see Appendix A and Appendix C. Also see the discussion in "Moving Faster and Smarter than the Antagonist" on page 64 in Chapter 3.

Handling Nay-Sayers

Your *opponent* may be just a nasty operating environment (also defined in Box 4 on page 22), which presents significant challenges. But *opponents* who are individuals add another twist—they can take active measures to thwart your *strategy*. We call such people **nay-sayers**.

Nay-sayers may oppose your *end-point objective* for any of a number of reasons. But one reason is all too common—they may covet the resources your *strategy* commands. These *opponents* have their own agendas and they never quit attacking your enterprise. Typically well outside the enterprise structure, they have much freedom of action. To top it off, they are generally smart and well spoken.

You must contain *nay-sayers* by hook or by crook. Elements of effective responses to these people include the following:

- Watching for your *Stakeholders'* lobbying, following up to find out the nature of their lobbying pitches, correcting any misstatements, and determining additional steps.
- Always preparing new data ready to show *Stakeholders* who *nay-sayers* target. This simple matter effectively undercuts most lobbying efforts of the *nay-sayers.*
- Remaining persistent in countering the *nay-sayers.*

> **Note** Notice that *nay-sayers* may be *Stakeholders* who now need more information to understand the *strategy*.

Dealing with True Surprises

The most surprising thing about surprises is that they are truly surprising. They are surprising to the general population, surprising to the practitioners within the field, and even surprising to those few individuals who have a responsibility and opportunity to alert others to potential and impending surprises.

The *Execution Team* needs an agreed-upon process for dealing with surprises. Leaving the matter to chance is an unnecessary risk and undercuts confidence in the *Execution Team*. An overview of the process for dealing with surprises is given in the next procedure.

To deal with a surprise

1. Evaluate the evidence of surprise.
2. Assess the impact of the surprise.
3. Identify potential responses to the surprise.
4. Estimate the time required to propose a considered response.

The key here is to have strong processes in place and to build confidence and respect with your *Stakeholders.* In particular, resist any calls for a rushed assessment of impact or a rushed choice of response. Create a procedure specifying how to deal with surprises.

Exploiting New Opportunities

Exploiting new opportunities is actually a rather difficult social dynamic. Your own people are usually devoted to the currently approved *strategy*. If and when you contemplate a change, expect natural pushback by well-meaning, devoted members of your own team. More discussion about changes and responses to changes by using *off-ramps* are described next.

Using Off-Ramps for Major Changes in Circumstances

Not infrequently during execution, it becomes apparent that a major change in circumstances has occurred. The responses to these changes are often referred to as *off-ramps*. Two types of *off-ramps* exist—Type I and Type II.

Type I Off-Ramp

A Type I *off-ramp* proceeds from nominally good news. Opportunity is the driver. This type of *off-ramp* typically leads to a lower level or subsidiary activity that does not contribute to the *strategy* for the approved *end-point objective*. However, the *Execution Team* expects this subsidiary activity to lead to one or more other worthwhile *objectives*.

Type I *off-ramps*, often called **spin-offs**, pose difficulties for the *Execution Team*. Among other problems, they tend to divert talent and resources that are hard to replace. This lengthens the schedule of the main enterprise and compromises the quality of the product.

Type II Off-Ramp

A Type II *off-ramp* proceeds from bad news. Necessity is the driver. This type of *off-ramp* typically leads to a replacement *end-point objective* or to a change in the *strategy*. Difficulties posed by Type II *off-ramps* are of three general types:

- Changes in the execution effort to accommodate changes in *strategy* have resource and schedule impacts.
- Changes in *strategy* have impacts on *Stakeholder* support.
- Changes in the *end-point objective* have profound impact on the *Stakeholder* community and likely require *de facto* re-approval of the whole *strategy* effort.

Managing Off-Ramps

Both types of *off-ramps* are difficult to manage. They often involve writing off major expenses. They often involve controversy among *Stakeholders*, members of the *Execution Team,* and the *Approval Authority*. They often involve real surprises.

From the outset, the *Execution Team* needs to install mechanisms to provide alerts about any opportunity-driven or necessity-driven *off-ramp*. A formal, agreed-upon procedure for reacting to these events goes far toward avoiding the major disruptions that can result from either surprise or panic reactions to *off-ramp* events.

Deliverables for Chapter 14

The *Execution Staff* is responsible for ensuring that the *Execution Team* has taken adequate preparatory steps and has adequate processes in place to deal with surprises and setbacks. Dedicated units designated by the *Execution Staff* often deal with these preparatory steps.

Each dedicated unit provides a specific deliverable determined by the content of the staff work and the concerns of the *Execution Staff Director*. Typical deliverables are the following:

- **List of Potential Injurious Actions by Opponents**
- **List of Counter-Measures and Responses to Potential Injurious Actions by Opponents**
- **Nay-Sayer Status Report**

The *Execution Staff* works with the *Execution Team* to develop agreed-upon processes and then the staff provides the following typical deliverables, again with the actuals determined by the content of the staff work and the concerns of the director:

- **Procedure for Dealing with Surprises**
- **Procedure for Dealing with Off-Ramp Events**

Chapter 15
Successes and Failures Toward the End

A famous paradox arises as success approaches in endeavors that require a serious *strategy*. This paradox arises whenever the *Execution Team* drives the *strategy* too far. The result is that the prospect of real success fades, at some obscure point, into various forms of real failure.

Edward Luttwak describes this paradox with great depth of understanding in his book, *Strategy: The Logic of War and Peace*. Understanding and respecting this paradox is a very serious matter for the *Execution Team* and execution management.

> **Note** For a full reference, see Luttwak, Edward J., *Strategy: The Logic of War and Peace* in Appendix A.

This chapter provides some guidance and advice on how to deal with the paradox. In preparation, re-read "Desert Campaigns of the Afrika Korps and the British 8th Army in WWII" on page 48 in Chapter 3, which describes the Generals' experiences along the desert road.

The General Lesson for Strategy Execution

This is the general lesson from the paradox as success approaches during *strategy* execution.

> With the last push toward final success and achievement of the *end-point objective*, people have an overwhelming tendency to go too far. They then slip into a much less favorable situation than intended or necessary.

It is relatively easy to see the application of the lesson in the *actions* of Generals Rommel and Montgomery during the "war of the desert road." It is harder to see, but just as real, in many cases of contemporary *strategy* execution.

Planning to Consolidate Success

A good, well-conceived *strategy* looks ahead to the possibility of success and makes solid plans for what to do next. *Execution Teams* are very difficult to build, but remarkably easy to tear down. Thoughtful efforts to capture and nurture components of the *Execution Team* are valuable, although they can appear self-serving.

In the case of the ICBM Program, success in the missile field was immediately and successfully transitioned into a vibrant and very valuable space launch and spacecraft development and production program. This space program serves both military and civilian users. Well-known capabilities include weather satellites, communication satellites, and the global positioning system or GPS—the navigation satellite system.

In many situations, the *strategy's end-point objective* is embedded in the on-going operations of a larger enterprise. For example, a business or a factory just keeps on running—next week, next month, and next year. In these cases, the strategic challenges of the next cycle are likely to be new, but the underlying domain knowledge is well known to the *Execution Team*. With appropriate strategic guidance to respond to what is new, the *Execution Team* can go directly to work on the next cycle.

Dealing with Failure

Real failure to achieve all the *objectives* of a *strategy* is common. Indeed, complete and utter failure is very unlikely and partial successes are common. To see partial successes as worthwhile, it takes a concerted effort to develop broad support for those parts of the *strategy* that demonstrate success.

Creating Durable Legacies

Major enterprises teach the society as a whole that important innovations are feasible. These enterprises open the door to further progress by encouraging new people and new money to engage in follow-on activities.

> **Important** Mere collection of contractual fees and reimbursements is far too meager a reward. Creating a durable legacy is a far greater reward.

For example, the visible success of the military ICBM Program served to offset the string of failures of the military space program in the eyes of the public. This in turn enabled the civil space program to garner enough support to achieve President Kennedy's goal of landing a man on the moon within a decade.

Deliverables for Chapter 15

The *Execution Staff* has the responsibility to set in place the agreements and plans that extract maximum value from the *strategy* execution. The *Execution Staff* also has the responsibility to strive to avoid unnecessary downsides that all too often plague the end of the execution phase.

The *Execution Staff* concludes this phase of the *strategy* process and provides an opportunity for the *Execution Team* to move forward by providing the following typical deliverables, with the actuals determined by the content of the execution phase and the concerns of the *Stakeholders:*

- **Assessment of End-Point Objective and Value of Adjustments**—examination of when achievement of the *end-point objective* is first deemed feasible. Determination of the value of adjustments to the *end-point objective* to avoid the paradox of overshoot and other unwanted downsides.
- **Plan for Presentation about End-Point Objective Assessment and Adjustments**—a document to share with *Stakeholders,* with a view to building a consensus for adjustment, or not.

- **Proposal for Follow-On Activities and Team Disposition**—activities regarding the *Execution Team*, including disposition of any and all parts of the team not needed for follow-on activities. In many organizations with ongoing activities, it is presumed that the *Execution Team* will do a similar activity during the next year or quarter. We counsel against that presumption.
- **Plan for Presentation about Follow-On Activities and Team Disposition**—a document to share with *Stakeholders,* with a view to building a consensus for further action on the proposal.

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Appendix A
Important Books and Papers on Strategy

The following list of books and papers includes publications that are directly referenced in this manual and others that provide useful background on various aspects of the *strategy* design, development, approval, and execution life cycle. Many other fine books and articles are also available with many different points of view.

Most of the publications listed have further references within them. All were available through online and other commercial sources in mid-2010.

Boyd, John

See Coram, Hammond, Osinga, and Richards
Also see http://en.wikipedia.org/wiki/JohnBoyd (military strategist)

Boyd vastly preferred oral communication at which he was superb. Fortunately, he left briefing aids for some of his oral presentations, many of which are discussed in Osinga's book.

In 1976, Boyd wrote an essay titled "Destruction and Creation." In the essay, he explains the philosophical basis for his theories about warfare. The essay is contained in Coram's book referenced later in this appendix. The diagram of Boyd's OODA Loop in Appendix C of this manual is reprinted courtesy of Barry Watts from his copy of a 1995 PowerPoint presentation by Boyd titled, "The Essence of Winning and Losing."

Bremer III, L. Paul

My Year in Iraq: The Struggle to Build a Future of Hope
Threshold Editions, Simon & Schuster, Inc.; New York, NY
© 2006 L. Paul Bremer III

Bremer served as the head of the Coalition Provisional Authority (CPA) and as the senior American in Iraq. His service began shortly after the end of major hostilities in May 2003 and continued until the return of limited sovereignty to an interim Iraqi government in June 2004.

Bremer was not involved in any of the governmental discussions or planning prior to his appointment. At that time, Bremer was a retired Ambassador with experience in counter-terrorism but no direct experience in Iraq. He was well known to Secretary Rumsfeld and had served as Executive Secretary to Henry Kissinger when Kissinger was Secretary of State.

Bush, George W.

Decision Points
Crown Publishing Group, a division of Random House, Inc.; New York, NY
© 2010 George W. Bush

President Bush's memoir covers Bush's viewpoint on his decisions through his eight years in office.

Chandrasekaran, Rajiv

Green Zone: Imperial Life in the Emerald City
Vintage Books, a division of Random House, Inc.; New York, NY
© 2006 Rajiv Chandrasekaran

Written by the Washington Post Bureau Chief in Baghdad, this book covers the efforts of the CPA staff to bring order and democracy to Iraq during the first year after major combat. It is not kind.

Clausewitz, Carl von

On War
Dover Publications, Inc.; Mineola, NY
© 2003 Dover Publications

This is the classic book on the planning and conduct of war, written by the longtime leader of the powerful Prussian military in the early 19th century. It is remarkable in that its lessons transcend the particulars of both the military technology and the political situation of the period.

The best translation and editing by Michael Howard and Peter Paret, along with commentary by Howard, Paret, and Bernard Brodie, was published in 1976 by Princeton University Press and is sometimes available through booksellers.

Coram, Robert

Boyd: The Fighter Pilot Who Changed the Art of War
Little, Brown and Company; New York, NY (out of print)
© 2002 Robert Coram

Back Bay Books; Owensville, MO (paperback reprint)
© 2004 Back Bay Books

This book covers Boyd's influence on the American military's understanding of the art of warfare. It contains a complete copy of Boyd's only essay, "Destruction and Creation."

Douhet, Giulio

The Command of the Air
Originally published in 1942

University of Alabama Press; Tuscaloosa, AL (reprint)
© 2009 University of Alabama Press

Douhet was one of the first to examine whether, or to what extent, the technology of the airplane changed the *strategy* of warfare. He was clearly an airpower enthusiast, but his actual statements are not so revolutionary as he is often credited.

Ehrhard, Thomas P.

An Air Force Strategy for the Long Haul
Center for Strategic and Budgetary Assessments; Washington, DC
© 2009 Center for Strategic and Budgetary Assessments

One of a series of CSBA publications on *strategies* for the long haul, this book takes a different perspective for *strategy* development than this manual. Ehrhard focuses on *strategy* for a particular organization over a specified period of time—the U.S. Air Force over the next 20 years.

Feith, Douglas J.

War and Decision: Inside the Pentagon at the Dawn of the War on Terrorism
HarperCollins Publishers; New York, NY
© 2008 Douglas J. Feith

Feith was Under Secretary of Defense from 2001 until mid-2005. His book provides a detailed account of staff efforts within the U.S. government in dealing with two issues during the run-up to the 2003 intervention in Iraq—the role of the Iraqi exiles in the post-intervention period and the restoration of civil order, governance, and public services in Iraq.

Fox, Justin

The Myth of the Rational Market
Harper Collins Publishers, Inc.; New York, NY
© 2009 Justin Fox

This book is one of a number of recent works that cast doubt on the general assumption of 20th century economics that the important actors in the financial system act rationally and independently to advance their own self-interest.

Gerstner, Louis V., Jr.

Who Says Elephants Can't Dance?
Harper Collins; New York, NY
© 2002 Louis V. Gerstner, Jr.

Gerstner was appointed CEO of IBM at a time when the corporation was fast losing its long-time dominance in the business machine marketplace. Over the course of his tenure, a little less than a decade, Gerstner transformed IBM in internal culture, shifted its products from goods to services, and continued to make lots of profit. He wrote this book the year after he voluntarily withdrew from IBM to capture all his actions, his rationales, and the lessons he learned.

Glantz, David M.

Soviet Military Operational Art: In Pursuit of Deep Battle
Frank Cass Publishers; London, UK
©1991 David M. Glantz

Glantz's book provides a comprehensive review of the extensive Russian literature on the Soviet dedication to understanding and applying operational art to armed conflict.

Gordon, Michael R. and Trainor, Bernard E.

Cobra II: The Inside Story of the Invasion and Occupation of Iraq
Vintage Books, a division of Random House; New York, NY
© 2006, 2007 Michael R. Gordon and Bernard E. Trainor

Gordon is a pre-eminent military journalist and Trainor is a highly respected retired Marine Lieutenant General. Their book provides a fascinating and highly informative account of the 2003 intervention in Iraq from the viewpoint of participating ground force personnel.

Hammond, Grant T.

The Mind of War: John Boyd and American Security
Smithsonian Institute Press; Washington, DC
© 2001 Smithsonian Books

This book contains a close colleague's explanation of Boyd's ideas and their wide application.

Hart, Basil Henry Liddell

Strategy
Penguin Books; New York, NY (2nd revised edition)
© 1991 Penguin Books

Hart began his career as a military observer, analyst, and writer in reflection upon WWI as a serving officer in the British Army. Over the next two decades, he continued to observe the foment in many countries as new technologies of armor and air came of age, and as the political arrangements of Paris in 1919 came unraveled. This book is widely respected and gives easy insight and meaning to terms such as "frontal assault" and "flanking maneuver." No student of *strategy* should leave home without it.

Kent, Glenn A.

Thinking About America's Defense: An Analytic Memoir
RAND Corporation; Santa Monica, CA
© 2008 RAND Corporation

Lieutenant General Kent USAF (retired) spent the bulk of his career in Washington, DC, both as a serving officer and in a very active retirement. This book covers in fascinating detail many of the analytic projects for which Kent is widely acclaimed. It is an invaluable source book for those seeking to learn strategic thinking.

Kilcullen, David

The Accidental Guerilla: Fighting Small Wars in the Midst of a Big One
Oxford University Press; New York, NY
© 2009 David Kilcullen

This book is the best analysis to date of U.S. *strategy* in Afghanistan and Iraq following al Qaeda's attacks on the World Trade Center and the Pentagon on September 11, 2001 (9/11). Kilcullen is an Australian army officer who, at Paul Wolfowitz's request, was loaned to the U.S. government after 9/11. He later worked in the State Department and served as a special advisor to General David Petraeus during the "surge" in 2007.

Krepinevich, Andrew F.

7 Deadly Scenarios
Bantam Dell, A Division of Random House, Inc.; New York, NY
© 2009 Andrew F. Krepinevich

This book contains seven future scenarios that are considered by the authorship worthy of attention by the U. S. government. It also contains a fine collection of references to contemporary publications on *strategy* and related matters.

Luttwak, Edward N.

Strategy: The Logic of War and Peace
Harvard University Press; Cambridge, MA
© 1987, 2001 President and Fellows of Harvard College

The 2001 revised and enlarged edition contains extensive descriptions and analyses of military *strategies* across the five levels of military *strategy* used by Western militaries—from the Technical Level, Tactical Level, Operational Level, and Theater Level up to the Grand Strategy Level.

Markowitz, Harry

"Portfolio Selection," ***The Journal of Finance***
Vol. 7, No. 1, March 1952, 77-91
Nobel Lecture, December 1990

Markowitz is credited with the idea, and its application to financial decision-making, of the theory of diversified portfolios as a way to manage risk.

Murdock, Clark A.

Future Making
Murdock Associates, Inc.; Stevensville, MD
© 2007 Clark A. Murdock

This book is concerned with the imperative for an ongoing business to take concrete preparatory actions *now* in order to prosper in its *future* marketplace. The book provides guidance to the planner and staff on how to go about predicting the essential aspects of this future marketplace and how to design a *strategy* to prepare to prosper in it. Murdock then makes an impassioned plea to get the CEO to learn the *strategy*, believe in the *strategy*, commit to the *strategy*, and take charge of executing the *strategy*.

Osinga, Frans P. B.

Science, Strategy and War: The Strategic Theory of John Boyd
Routledge, Taylor & Francis Group; New York, NY
© 2007 Frans P. B. Osinga

Osinga anoints Boyd as the first post-modern strategist. This book contains a description and exposition of most of Boyd's oral presentations.

Owens, William A. and Ed Offley

Lifting the Fog of War
Johns Hopkins University Press; Baltimore, MD
© 2001 Bill Owens

Admiral Owens wrote this book shortly after retiring from the U.S. Navy as Vice Chairman of the Joint Chiefs of Staff. Owens was an avid and early promoter of digital communications, computers, and remotely-piloted vehicles.

Paul, Christopher, Colin P. Clarke, and Beth Grill

Victory Has a Thousand Fathers: Sources of Success in Counterinsurgency
RAND Corporation; Santa Monica, CA
© 2010 RAND Corporation

Victory Has a Thousand Fathers: Detailed Counterinsurgency Case Studies
RAND Corporation; Santa Monica, CA
© 2010 RAND Corporation

These books are companion volumes with recent analyses of counter-insurgency in a long history of insightful studies by RAND that stretches back to publications in the 1960s.

Perry, William J. and Stephen J. Hadley

The QDR in Perspective: Meeting America's National Security Needs in the 21st Century
United States Institute of Peace; Washington, D.C.
July 2010

William Perry was Secretary of Defense to President William Clinton and Stephen Hadley was National Security Advisor to President George W. Bush. They chaired a commission directed by the Congress to review the Quadrennial Defense Review (QDR) of 2009.

Porter, Michael E.

On Competition, Updated and Expanded
Harvard Business School Press; Cambridge, MA
© 2008 The President and Fellows of Harvard College

Professor Porter is widely recognized as the premier expert on all aspects of competition in business. His book provides extensive and clear taxonomies of all of the factors that can influence competition.

Richards, Chet

Certain to Win: The Strategy of John Boyd Applied to Business
Xlibris Corporation; Philadelphia, PA
© 2004 Chet Richards

This book applies the *strategy* concepts of John Boyd to business. Richards, a retired U.S. Air Force intelligence officer, also compares and contrasts the work of Boyd and Sun Tzu.

Ricks, Thomas E.

Fiasco: The American Military Adventure in Iraq
The Penguin Press; New York, NY
© 2006, 2007 Thomas E. Ricks

The author is a Pulitzer Prize-winning Pentagon correspondent for the Washington Post. As the title portends, the book takes a dim view of most of the decisions and *actions* of senior American officials—both civilian and military—engaged in the Iraq intervention in 2003.

Roberts, Andrew

The Storm of War: A New History of the Second World War
Penguin Books Ltd.; London, UK (paperback edition)
© 2010 Penguin Group

Andrew Roberts' fine new history of WWII covers the North African campaign between the German Afrika Korps and the British 8th Army as well as all of the other important military campaigns of WWII.

Masters and Commanders: How Roosevelt, Churchill, Alanbrooke and Marshall Won the War in the West—1941-45
Allen Lane; London, UK
© 2008 Penguin Group UK

Masters and Commanders was researched and written in parallel with *The Storm of War*. It is a fresh and comprehensive account of how two politicians, Churchill and Roosevelt, and two commanders, Alanbrooke and Marshall, debated and decided Allied grand strategy in the West during World War II.

Rumelt, Richard P.

"*Learning Strategy*"
Privately published paper by author, 15 pages
© 2004 Richard P. Rumelt

This paper provides an in-depth example of teaching and learning *strategy* from Professor Rumelt's coursework at the University of California, Los Angeles. Rumelt's main example includes an excellent illustration of changes in the *field of action*.

"*The Proximate Objective*"
Privately published paper by author, 40 pages
© 2007 Richard P. Rumelt

This paper provides an in-depth description of the concept of the *proximate objective* and a rationale for its importance in *strategy* development. It also provides a number of examples showing the utility of the *proximate objective* in business applications.

Salmon, Felix

"The Secret Formula that Destroyed Wall Street," *Wired*
17.03, March 2009, 74-79

This article covers the error made in U.S. financial circles in the run-up to the 2008 meltdown where detailed, short-run analysis was accorded more weight than the possibility of a major, long-run shift in investor judgment.

Sheehan, Neil

A Fiery Peace in a Cold War
Random House, Inc.; New York, NY
© 2009 Neil Sheehan

This recent book, a full biography of General Bernard Adolph Schriever, contains a detailed account of the organization, goals, and *strategies* of the U.S. Air Force missile and space program in the 1950s and 1960s.

Spinardi, Graham

From Polaris to Trident
Cambridge University Press; Cambridge, UK
© 1994, Cambridge University Press

This book is written from the point of view of technology and engineering. It covers primarily the United Kingdom (UK) application of the Polaris/Trident submarine-launched ballistic missile program.

Taleb, Nassim Nicholas

The Black Swan
Random House, Inc.; New York, NY
© 2007 Nassim Nicholas Taleb

This book is devoted to the history and content of the *Black Swan* phenomenon. It contains many astonishing examples that should make believers of us all.

Tenet, George with Bill Harlow

At the Center of the Storm: The CIA During America's Time of Crisis
HarperCollins Publishers; New York, NY
© 2007 George Tenet

Tenet was the Director of Central Intelligence (DCI) from 1997 to 2004—the second longest tenure for a DCI. Moreover, the appointment followed many years of his work on a Congressional staff covering intelligence. Tenet knows and understands the intelligence business. His memoir provides a deep insight into the roles and responsibilities of the Chief Intelligence Officer in the U.S. government.

Tzu, Sun

The Art of War
B. H. L. Hart, ed.
Oxford University Press; Oxford, UK
© 1971 Oxford University Press

Sun Tzu's revered tome on war has survived as a vital treatment for many centuries. This recent edition was published under the guidance of Liddell Hart, a respected English scholar of military *strategy*.

Watts, Barry

The Foundations of U.S. Air Doctrine: The Problem of Friction in War
Air University Press; Maxwell Air Force Base, AL (original publication)
© 1984 U.S. Government Printing Office

University Press of the Pacific; Honolulu, HI (reprint)
© 2002 University Press of the Pacific

This book focuses on the implications of the general principle of *friction* in war to the particular setting of air operations in the late 20th century. For background on Watts, see his book, *Clausewitzian Friction and Future War*.

Clausewitzian Friction and Future War
Institute of National Security Studies, McNair Paper 68; Washington, DC
Revised edition 2006, in the public domain

This is one of several books and articles by Barry Watts on *friction* in the conduct of military operations. Watts is an accomplished fighter pilot with combat in Vietnam. He is also a respected military analyst, once serving as the head of Program Analysis and Evaluation in the U.S. Department of Defense.

US Combat Training, Operational Art, and Strategic Competence: Problems and Opportunities
Center for Strategic and Budgetary Assessments; Washington, DC

This book provides a lengthy review of the U.S. experience in combat training. It goes on to describe how that experience has served as a catalyst for serious study of military *strategy* within the U.S. military establishment, more widely than just for combat training.

"Barriers to Acting Strategically: Why Strategy Is So Difficult"
Paper for conference, "Developing Competitive Strategies for the 21st Century," August 23-24, 2010; U.S. Naval War College
(conference paper, by permission of the author)

This paper focuses on the more difficult and complex domains for *strategy* work with a competent *antagonist* and a domain of political, economic, cultural, and military *actions* and *counter-actions*.

West, Bing

The Strongest Tribe: War, Politics, and the Endgame in Iraq
Random House Trade Paperback Edition; New York, NY

This book contains a detailed account of the Iraqi intervention by Bing West, an accomplished observer and writer. He is a consummate U.S. Marine with hands-on experience in the field, in command, and in Washington DC.

Woodward, Bob

Plan of Attack: The Definitive Account of the Decision to Invade Iraq
Simon & Schuster; New York, NY

Woodward's book focuses almost exclusively on the military, tactical decision as to when and whether to intervene with combat forces in Iraq in 2003. It has very little to offer as to *strategy* or policy considerations. It does not cover civil affairs or military *action* in Iraq to any appreciable extent.

Appendix B
List of Typical Staff Documents

In this *Staff Manual on Strategy*, we discuss many types of typical staff documents that you might create, update, and use in the process of designing, approving, and executing a strategy. Of course, the actual documents are determined by the content of your staff work and the concerns of the applicable *staff directors*.

The chapters in Part One, Part Two, and Part Three consider these documents your deliverables. The documents take many forms and include descriptions, lists, catalogs, programs, assessments, proposals, reports, recommendations, plans, addendums, procedures, and agreements.

The tables in this appendix show the name of each typical staff document, grouped by chapter, along with the inclusive page numbers for each chapter. Each of the three tables focuses on one part of the manual and its chapters.

Tip To understand the background and context for each staff document, see the chapter text. For specific topics in a document, see the index listings under the name of the document.

Note These lists of deliverables are written in a form to apply to a big *strategy* effort, with big formal staffs. Smaller efforts with smaller staffs, or no staffs at all, would not call for such formality. However, you really do need to nail down the essence of the deliverables for a likelihood of success. *Strategy* is usually about important matters worthy of success.

The first table shows all the document deliverables in Part One of this manual, which includes Chapters 4 to 6.

Table 22. Staff Documents in Part One

Deliverables for Part One **Designing the Strategy**	**Pages**
Chapter 4: Assessing Objectives and Actions	**71-76**
Draft Alternative Strategies (including Starting Point Lists)	
List of Missing Items, Uncertainties, and Unknowns	
Chapter 5: Assessing Knowledge and Support Bases	**77-81**
Knowledge Base Catalog	
Knowledge Base Improvement Program	
Knowledge Base Weakness Assessment	
Support Base Catalog	
Support Base Improvement Program	
Support Base Weakness Assessment	
Chapter 6: Assessing Constraints and Obstacles	**83-86**
Constraints and Obstacles Catalog	
Draft Alternative Strategies (updated)	
Knowledge Base Improvement Program (updated)	
Support Base Improvement Program (updated)	
Proposal to Develop a Strategy	

The next table shows all the document deliverables in Part Two of this manual, which includes Chapters 7 to 11.

Table 23. Staff Documents in Part Two

Deliverables for Part Two **Developing and Approving the Strategy**	**Pages**
Chapter 7: Approval to Develop a Strategy	**89-95**
Approval Package for the Proposal to Develop a Strategy	
Presentation Package for the Proposal to Develop a Strategy	
Approval Staff Recommendation to the Approval Authority	
Chapter 8: Dealing with Constraints and Obstacles	**97-99**
Constraints and Obstacles Catalog (updated)	
List of Critical Impacts on Draft Alternative Strategies	
Mitigation Improvement Program	
Mitigation Improvement Program Report	
Chapter 9: Analyzing and Improving Strategies	**101-105**
Draft Alternative Strategies (updated)	
Mitigation Improvement Program Report (updated)	
Chapter 10: Building Support and Approval to Execute	**107-111**
Support Base Catalog (updated)	
Support Base Improvement Program (updated)	
Support Base Weakness Assessment (updated)	
Proposal to Execute the Strategy	
Presentation Materials	
Chapter 11: Evaluating Quality of Staff Work	**113-114**
Addendum with Corrections for Errors of Omission and Commission to the Proposal to Execute the Strategy	
Alternative to the Proposal to Execute the Strategy	
Addendum to the Supporting Technical Actions for the Proposal to Execute the Strategy	
Approval Staff Recommendation for the Proposal to Execute the Strategy	

The last table shows all the document deliverables in Part Three of this manual, which includes Chapters 12 to 15.

Table 24. Staff Documents in Part Three

Deliverables for Part Three **Executing the Strategy**	**Pages**
Chapter 12: Building an Execution Team	**117-121**
Execution Agency Agreement to Undertake the Strategy	
Approval Authority Resource Commitment Agreement	
Stakeholders' Staff Support Consensus Agreement	
Approval Authority Augmentation of Execution Agency Consensus Agreement	
Chapter 13: Measuring and Reporting Progress	**123-125**
Assessment of Design Features of Actions and Objectives	
Assessment of Practices in Measuring and Reporting Progress	
Report on Actual Progress in Execution	
Chapter 14: Surprises and Setbacks During Execution	**127-130**
List of Potential Injurious Actions by Opponents	
List of Counter-Measures and Responses to Potential Injurious Actions by Opponents	
Nay-Sayer Status Report	
Procedure for Dealing with Surprises	
Procedure for Dealing with Off-Ramp Events	
Chapter 15: Successes and Failures Toward the End	**131-133**
Assessment of End-Point Objective and Value of Adjustments	
Plan for Presentation about End-Point Objective Assessment and Adjustments	
Proposal for Follow-On Activities and Team Disposition	
Plan for Presentation about Follow-On Activities and Team Disposition	

Appendix C
Outsize Diagrams and Tables

Appendix C contains several outsize diagrams and documents, some of which are shown here as tables. The introduction to each one references the place in the main text about the topic.

Boyd's OODA Loop

"Moving Faster and Smarter than the Antagonist," on page 64 in Chapter 3, is one of the techniques you can apply to all *strategies*. In John Boyd's lectures on his approach to *strategy*, he often focused on competent *opponents* in very tight, time-urgent competition. To illustrate his concepts, Boyd used some version of The OODA "Loop" Sketch shown below.

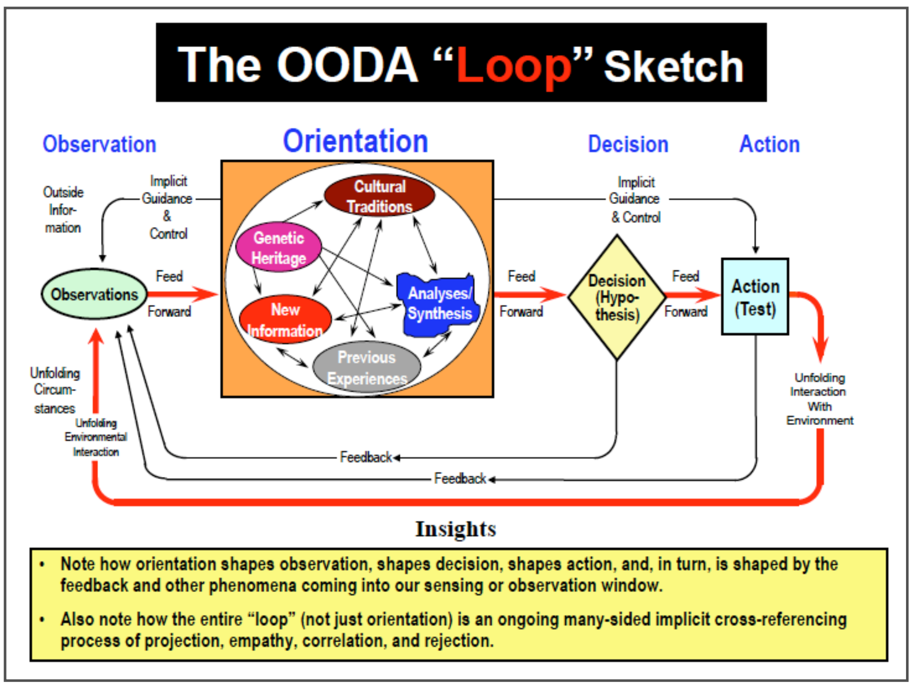

Figure 3. Boyd's OODA Loop

Depending upon the situation, the *opponents*, and their equipment, different parts of the OODA Loop take on differing characteristics. Remarkably, the number of varied domains for which Boyd's OODA Loop can provide insight is quite large.

Constraints and Obstacles Catalog

The next table is an example of a *Constraints and Obstacles Catalog* set up for two items—one item on this page and the other on the next page. The check box under the date shows whether each *Draft Alternative Strategy* has dealt with C&O Item 001 and C&O Item 002. For more information, see "Creating a Constraints and Obstacles Catalog" on pages 83-85 in Chapter 6.

Table 25. Example of Constraints and Obstacles Catalog

Constraints and Obstacles Catalog	**Date ________**
001. Name of Constraint or Obstacle Item	**Dealt with? Y or N** **Alternative 1 ___** **Alternative 2 ___** **Alternative 3 ___**
Description:	
How difficulties are likely to change over time:	
Our opportunities for actions that can make difficulties change for the better:	
Our opportunities for actions that can make difficulties change for the worse:	
Opponent's opportunities for actions that can make difficulties change for the better:	
Opponent's opportunities for actions that can make difficulties change for the worse:	
Risk management tools to reduce, avoid, or accept some risk, including opportunities to trade time, money, or objectives for risk:	
Impact of difficulties and remedy actions on Draft Alternative Strategy 1:	
Impact of difficulties and remedy actions on Draft Alternative Strategy 2:	
Impact of difficulties and remedy actions on Draft Alternative Strategy 3:	

Constraints and Obstacles Catalog	**Date __________**
002. Name of Next Constraint or Obstacle Item	**Dealt with? Y or N** **Alternative 1** ___ **Alternative 2** ___ **Alternative 3** ___
Description:	
How difficulties are likely to change over time:	
Our opportunities for actions that can make difficulties change for the better:	
Our opportunities for actions that can make difficulties change for the worse:	
Opponent's opportunities for actions that can make difficulties change for the better:	
Opponent's opportunities for actions that can make difficulties change for the worse:	
Risk management tools to reduce, avoid, or accept some risk, including opportunities to trade time, money, or objectives for risk:	
Impact of difficulties and remedy actions on Draft Alternative Strategy 1:	
Impact of difficulties and remedy actions on Draft Alternative Strategy 2:	
Impact of difficulties and remedy actions on Draft Alternative Strategy 3:	

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Appendix D
Nomenclature Applied to Operation Iraqi Freedom

Early readers of this manual expressed difficulty in relating the abstract nomenclature of the manual to their own concrete experience. To provide a tangible example of the nomenclature used in this manual, Appendix D takes an abbreviated look at the real world *strategy* development and execution of Operation Iraqi Freedom—the U.S. armed intervention in Iraq. Because it is a particularly complex example, some of the text is a bit detailed in an effort to set forth the points accurately.

The events covered here start several years before the actual military intervention by U.S. forces in March 2003 to illustrate the role of precursor actions by those seeking to build a support base for a strategy goal that is not yet approved. The events covered run through June 2004, the return of limited sovereignty to the interim Iraqi government, and selectively thereafter—enough to illustrate some of the consequences of decisions and choices made during the *strategy* design phase.

The items of this presentation are grouped under the various key concepts and players set forth in Chapters 1 and 2. The text is in the form of informal notes, without footnotes or references. Popular books covering these matters are listed in Appendix A under the authors Bremer, Bush, Chandrasekaran, Feith, Gordon/Trainor, Kilcullen, Ricks, Tenet, West, and Woodward.

End-Point Objective

As is usual in major strategy efforts, the *end-point objective* for Operation Iraqi Freedom changed over time. Such changes result from changes in the political climate, in response to provocation, in reassessment of opportunities and *obstacles*—for a host of real reasons.

Regime Change

In the precursor time period, roughly the decade after the end of the Gulf War in 1991, the Washington policy community made a devoted, but small effort to foster regime change in Iraq. Saddam Hussein was branded a tyrant who abused his own people. His governing Baath Party was deemed illegitimate and domineering over the more populous Shiite and Kurdish ethnic groups in Iraq.

In the intervention event, the U.S. forces overwhelmed the Iraqi forces that proved to be riddled with favoritism and corruption in the officer corps. Saddam Hussein sought to hide, but was betrayed, captured, and eventually tried, convicted, and executed for crimes against his own people. The U.S.-controlled CPA completed the regime change by dissolving the Iraqi armed forces and banning Baathist members from holding governmental posts of even modest scope.

Eliminating Weapons of Mass Destruction

During this period, an on-going military action between Iraqi air defenses and U.S. aircraft was enforcing the no-fly zones over the Shiite and Kurdish districts established as part of the Gulf War settlement. In addition, a number of United Nations (UN) resolutions and inspection teams sought to curtail Iraqi efforts to develop and deploy chemical, biological, and nuclear WMD.

With the terrorist attacks in New York City on September 11, 2001, concern grew that international terrorists might obtain WMD from radical governments such as Iraq. This led to WMD elimination as an additional motivation for regime change, and eventually to a public stance where WMD elimination became the principal motivation.

Creating Democracy in a Unified Iraq

If a regime change were to occur, what would replace it? Many familiar with the region noted that the Paris Treaty of 1919 basically invented Iraq by combining the three traditional Ottoman provinces of Mosul (predominantly Kurdish) in the north, Baghdad (predominantly Sunni) in the center, and Basra (predominantly Shiite) in the south. If Iraq was a problem, why not keep it fractured and weak? So the argument went.

But this line of reasoning did not gain traction for a number of reasons. The decision of the U.S. government, with general support from European nations, was to foster a democratic regime embracing all of Iraq.

The Kurds, who had achieved some substantial *de facto* autonomy after 1991, who have had no territory to call their own for centuries, and who were loathe to share their oil reserves, were not altogether pleased with this decision. The Sunnis, who had been governing from a minority population base, and who had little oil reserves on their territory, stood to lose big time. The Shiites, long suffering under the Sunnis and with their own oil in the south, stood to gain big time in a democratic government dominated by popular vote.

However, as of late 2010, the Shiites had splintered into several parties—each seeking dominant power. The goal of a unified Iraq remained elusive, but still probable. Meanwhile, the U.S. military presence was diminishing, the new Iraqi Army and national police forces were performing adequately at security, and the violence from international terrorists was subsiding.

Maintaining Civil Order and Restoring Essential Services

Notably absent from the discussions of *end-point objectives* in 2002 was caring for the population of Iraq. To be sure, there were voices calling for more explicit commitment and action toward this objective. The public pronouncements of the U.S. government in 2003 made much of the ultimate value of freedom and democracy but made little mention or commitment to post-combat recovery. Moreover, there was little actual preparation for appropriate actions by U.S. civil and military organizations.

This astonishing omission led immediately to widespread looting, which included forcible dismantling of surviving infrastructure to sell copper and industrial valves, for example, on the black market operated by criminal elements in neighboring countries. Dissolving the Iraqi armed forces and firing large numbers of Baath government workers led to long-term under-employment and fertile recruiting pools for terrorist elements.

As of late 2010, the longer-term impacts of this omission from the declared and *de facto end-point objective* continued to hobble the people of Iraq, its government, and U.S. interests throughout the region.

Obstacles

Many serious *constraints* and *obstacles* challenged a successful U.S. intervention in Iraq to accomplish the announced *end-point objective*. Some had their basis in geography and weather, but these factors were more in the nature of *constraints* on the pace of *actions*. The more profound *obstacles* had their basis in the society and demography of Iraq.

Sectarian Animosities

To the surprise of many in the U.S., the animosities among the three sectarian populations—Sunnis, Shiites, and Kurds—were strong enough to generate armed militias and organized, lethal violence.

Prior Sunni Domination

The minority Sunni population, with its Baath Party and its tyrannical leader Saddam Hussein, had so dominated and terrorized the larger Iraqi population for so long that normal democratic ideas and behavior were difficult to comprehend and carry out. In particular, many Shiite men turned to armed militias as a more comfortable modality for expressing their long suppressed rights to participation in governing their country.

Tribal Allegiances

In Iraqi sociology, especially away from major cities, tribal allegiances and cultural norms are stronger than civil law and governmental regulations. Moreover, these tribal matters are not easily discerned or evoked by outsiders.

Interests of Neighboring Countries

Each country bordering Iraq—Iran, Turkey, Syria, Jordan, Saudi Arabia, and Kuwait—has strong cultural, economic, and political stakes in the future of Iraq. Most of these countries have been involved in military action with the Iraqi armed forces in recent decades. Each country sought freedom of *action* to pursue their interests, often resulting in *actions* detrimental to stability and security in Iraq.

Opportunism of International Terrorists

International terrorist organizations seek to establish themselves in territory where the local governance is weak or absent. With the removal of the Baath government, the largely uninhabited western desert of Iraq was a territory of opportunity from which to mount actions against U.S. forces and interests.

Under-Employment of Talented Iraqis

Many talented Iraqis were barred from fully productive employment by the disruption of the intervention, the dismantling of the armed forces, and the de-Baathification edict. Re-building a country takes talent—lots of it.

Constraints

In our nomenclature, *constraints* affect the rate at which *actions* can take place or they affect the manner in which *actions* can take place.

> **Note** For more information, see Chapter 6, "Assessing Constraints and Obstacles."

Some of the principal *constraints* in Iraq during 2003 are discussed in this section.

Geography

Iraq is, of course, a long way from the U.S. homeland. Personnel can be moved by air, but equipment and supplies mostly require sea transport. Moreover, the practical ports are located in Kuwait and Saudi Arabia; their use requires the cooperation of those countries. Turkey declined to permit ground forces to transit its territory to reach Iraq's northern provinces.

Limits on U.S. Forces

U.S. forces faced three general limits. First, forces were needed elsewhere, to include the unfinished business in Afghanistan. Second, the U.S. Congress was wary of a very large, very expensive intervention. Third, Secretary of Defense Rumsfeld had a major initiative underway to transform the U.S. military into a high-tech, fast-moving, small-footprint force. All three conspired to limit both the size of the U.S. forces committed and the duration of the commitment.

In addition, the terms of the *end-point objective* did not include tasks and missions that necessarily required large numbers of ground force soldiers. But this conundrum left the intervention vulnerable to terrorism and insurgent *actions*. This continued to grow year after year, forcing a revision of *objectives*, *strategy*, and force levels in 2007.

Limits on Allied Forces

The intervention in Iraq, though supported by multiple UN resolutions, was not widely supported by other nations in terms of supplying military forces. Only the UK provided major forces. Some other countries provided valuable but small contingents.

Iraqi Exiles

For some years before the 2003 intervention, some Iraqi exile persons and organizations aspired to assume governing power in Iraq following a regime change. There was, of course, little assurance that they were suitable to govern or that the Iraqi people were likely accept them. Nonetheless, the exiles were real *Stakeholders* with some freedom of *action* that constrained some efforts to establish democracy in Iraq.

Weak Support in the U.S.

Due to much controversy and weak support for the Iraq intervention within the U.S., it was important to conduct many *actions* with a clear eye toward public response. For example, in early 2003, the military dribbled out in small chunks the necessary build-up of U.S. forces in Kuwait, with minimal public announcements or forewarning to families.

Support Base *circa* 2002

By the beginning of 2002, the upper level of the U.S. government was actively pursuing diplomatic *actions* and military preparations that sought to advance the *end-point objectives* outlined earlier in this section. The *support base* for these activities was scattered and weak for the most part, but provided strong, isolated support within high levels of the U.S. government.

U.S. Intelligence Community

After the emphasis within the *end-point objective* shifted to the elimination of Iraqi programs for WMD, the focus of the intelligence community shifted. The new focus was to establish the fact of an Iraqi WMD program by providing concrete, substantial intelligence data in a form that could be shared with and understood by the public. This proved difficult, but the intelligence community made a decent case.

U.S. Public

The long history of trouble with Saddam Hussein—the Gulf War, the assassination attempt on former President Bush, the UN inspection effort on WMD, the Scud missile strikes on Israel, and the long war with Iran—had conditioned the U.S. public to favor regime change in Iraq. However, when it came to support for mounting a major ground force intervention, support was lukewarm at best. On the other hand, allowing a full-fledged tyrant to walk the earth with WMD was definitely a bad idea.

U.S. Congress

For the most part, the U.S. Congress was of the same view as the public. Outspoken members were both for intervention and against it. Most members hoped diplomacy through the UN would work the problem somehow.

United Nations Security Council

By 2002, the UN Security Council was in a difficult position. It had passed a number of resolutions calling on Iraq to stop its WMD programs and submit to a substantial inspection effort. The inspectors had found and removed a large quantity of WMD materials and equipment. But in 1998, the inspectors were told to leave and not come back and now the U.S. and others were calling for more *action*. Iraq was intractable. Support for the U.S. position was grudging, with most member nations only agreeing to further UN pressure in preference to unilateral U.S. intervention.

Knowledge Base *circa* 2002

By the summer of 2002, the general nature of Iraqi sectarian splits and the general nature of the Baath regime were known broadly at senior levels in Washington. More detailed knowledge was resident in staffs in the State Department, in the intelligence community, and in some specialty private firms employing retired government experts.

The military staffs charged with developing plans for combat operations are reported to have had adequate knowledge of terrain, roadways, and the like for their task. Four of the notable areas where more knowledge was needed are discussed next.

Combat Proficiency of Iraqi Army Units

Scattered reports stated the reason for the deterioration in the proficiency of Iraqi regular army units was due to the promotion to leadership posts of unqualified, but politically loyal, officers. The elite, so-called Republican Guard Units were considered proficient with high morale, but concrete evidence of those judgments was sketchy.

Iraqi Combat Strategy for Opposing U.S. Ground Intervention

There was little direct knowledge of Iraqi combat plans. Saddam Hussein had made a number of public statements on the subject, but those statements appeared both misleading and grandiose. Given the mismatch in combat strength, the expectations were that the Iraqi plans would impose headline-grabbing costs or go underground for a long guerilla campaign, or both. But these expectations were just logical guesses.

Iranian Plans and Capabilities to Intervene

There was little direct knowledge of Iranian plans and capabilities to intervene. The Iranians could go in one of two directions:

- In support of the U.S. intervention to ensure their Shiite brothers were properly cared for.
- In support of the Iraqi army to impose a political cost to the U.S.

During the intervention event, Iran was content to provide low-level technical support to terrorist actions against U.S. forces—notably high-tech roadside bombs.

Strength of Iraqi Sectarian Animosities

Most observers in the U.S. were genuinely surprised at the level of Iraqi sectarian animosity. Knowledgeable specialists were not. But getting such detailed, yet critical, knowledge to all those who needed the information is a more difficult task than commonly recognized.

Development Staff

In an enterprise as large as major combat intervention are many levels of *strategy* and sectors of *strategy* that deserve and have their own *strategy Development Staff*. Iraq in 2003 was no exception.

Military Operations

The *strategy Development Staff* for military operations was initially (early 2002) a very small, very secret *ad hoc* group within the headquarters of U.S. Central Command, commanded by four-star General Tommy Franks. Over the course of a year, General Franks took the on-going work of that staff to Washington for more or less monthly briefings to Secretary Rumsfeld, the U.S. President, and selected members of their staffs.

General Franks received their guidance and his staff revised the plans. These military plans had two well-stated caveats:

- They did not deal with civil affairs (care for civilian population).
- They did not deal with post-combat establishment of a democratic unity government in Iraq.

Operations Other than Military

Based on published memoirs and public actions during the first year of the U.S. as the formal "occupying country," it appears that the *strategy Development Staff* work for operations other than military was not acted upon before the actual intervention in March 2003.

Approval Staff

The *de facto Approval Staff* was two-fold—a select group supporting Secretary Rumsfeld and a select group from the National Security Council (NSC) staff supporting the President. The use of the term "select group" is to convey the close-hold nature of the staff work for so sensitive an enterprise. The public position of the U.S. government during 2002 and right up to the actual intervention was that the U.S. was committed to a diplomatic solution to the problem of WMD in Iraq.

Approval Authority

The President of the United States.

Execution Team

The *Execution Team* for a major combat intervention is huge. Some of the more notable components for Iraq in 2003 are briefly described here.

Execution Agency—Military

U.S. Central Command, through its land component commander in Iraq, was the *de facto* lead *Execution Agency*. The vast bulk of the U.S. combat troops engaged in Iraq—Army, Marine, and other—reported to this command.

Other U.S. Military Units

Other U.S. military units included Special Operations Forces; air combat support from the U.S. Air Force, the U.S. Navy, and the U.S. Marine Corps; military airlift from various sources; the communications and the command and control facilities from various sources; and intelligence collection and analysis from various sources.

Coalition Military Units

Military units from other coalition countries made important contributions. For operations, they reported to U.S. Central Command as did U.S. military units. But the units from other countries also reported to their own governments, which had control on policy matters.

Execution Agency—Non-Military

The non-military governance and the U.S. President's representative in Iraq were known as the CPA. It functioned under the head of Ambassador L. Paul Bremer from May 2003, shortly after major combat subsided until limited sovereignty was returned to an interim Iraqi government in June 2004. The CPA replaced a short-lived, but more narrowly mandated organization—the Office of Reconstruction and Humanitarian Assistance (ORHA) under retired Lieutenant General Jay Garner.

Execution Staff(s)

In an enterprise as large as Operation Iraqi Freedom, with such substantial political, cultural, and economic ramifications and with so many *Stakeholders*, we can expect many groups to form *de facto Execution Staffs*.

The President’s Close Advisors

The President's close advisors in Operation Iraqi Freedom were Vice-President Dick Cheney, political advisor Carl Rove, and National Security Advisor Condoleeza Rice.

The National Security Council Staff

The NSC staff, though not really large, does have the workforce to review the progress of the strategic enterprise and apprise the President of any need for adjustment. In the intervention event, the NSC staff followed the metrics with care and instigated reappraisals that, along with other factors and pressures, led to a revised *strategy* in 2007.

Congressional Staffs

Several staff groups within the Congress, notably those opposed to the intervention, followed the progress with care and concern. By the terms of our government, this task is their duty.

Private Groups

Several private groups, again notably from opposing quarters, followed progress from public accounts. Several were vocal in calling for change.

Appendix E
Summary of Reviewers' Comments

During December 2010 the October 2010 "Workshop Version" of the Staff Manual on Strategy (SMOS) was circulated to a small group of respected reviewers for their comments. The reviewers were interviewed to elicit their comments and, in some cases, the reviewers provided written comments. The notes in this appendix summarize those comments.

Reviewer: Andy Hoehn

Currently at the RAND Corporation Washington Office, Hoehn was for many years a senior person in the Office of the Secretary of Defense dealing with strategy formulation.

1—Andy Hoehn was favorable toward the intent of the SMOS and the approach used.

2—Hoehn viewed the attention to staff processes as long overdue and much needed, particularly by the OSD staff. Many persons come to the OSD staff without much background in staff processes and even less background in how to actually devise practical sets of actions to get policy implemented.

3—Insert a real life example, two to three pages, very near the front of the SMOS in order grab the user's interest and to introduce the user to the essence of strategy.

4—There is a good balance between strategy substance and organizational matters.

5—There could be more examples, particularly little asides along the way to connect to the reader/user and help generate confidence in the presentation.

6—The strict division between the "three staffs" is not real life. More common is that the good people move to stay involved as the effort moves through its phases.

7—Text needs to emphasize the importance of sustaining the accomplishments of the strategy over the long run. The text seems to assume that once the "end-point objective" is achieved, it will stay viable without further work—just not real life. Wants direct attention to issues of "building new and lasting institutions."

8—Suggested three additional books for general reference: a) J.C.Wylie book in late 50s, b) "War Plan Orange" a book about a big, big war plan in WWII and c) Peter Rodman, "Presidential Leadership."

Reviewer: Chip Pickett

Currently a private consultant, Pickett retired from the Northrop Grumman Corporation where he headed planning and analysis operations at the corporate and operating unit levels for many years. Mr. Pickett was formerly a member of the OSD/NA staff.

1—Chip Pickett was lukewarm toward the intent and the approach used.

2—The tight structure of the SMOS is quite likely to lead a user to suspend innovation and judgment, both of which are necessary in order to make useful contributions to strategy work.

3—The sharp distinction made between staff and principals is overdrawn. Staffs do not make decisions it is true, but staffs must try to walk in their principals' shoes in order to make their maximum contribution.

4—The operating definition of a strategy proposed in the SMOS is considered much too narrow and fails to recognize the current literature on strategy which contains a wide range of more complete and more nuanced definitions. There is too much emphasis on strategy for a finite end-point, whereas many strategic objectives have an enduring character.

5—The SMOS does not properly emphasize the importance of seeking to understand the "opponent," which is central to strategy work. In particular, the SMOS does not mention the issue of change in the character of the opponent in response to the actions taken by us. Emphasize the "dynamic tussle between us and our opponent."

6—The SMOS text is too abstract in its language. A few explanatory examples at key points would be of great value to help novice staff persons understand the admonitions.

7—The SMOS does not include sufficient treatment of the variation in strategy approach that would be driven by differences in the origin of the strategy effort. There is too much emphasis on "safe" strategies, whereas the weaker opponent generally has to choose a more "risky" strategy.

8—The overall structure of the SMOS would lead a user to conclude that a good strategy could be produced by a linear process, whereas Pickett is certain that good strategies require an iterative process in which the final product evolves over time. The coverage of alternatives, revisions, and "loop-backs" contained in the SMOS text are not considered adequate in this regard.

9—Pickett provided several typed pages of detailed notes that elaborate on the points summarized above plus related matters.

10—More books for reference: a) Collins, "Good to Great" and "Built to Last," b) Sepolsky, early 70s on Polaris program, c) "When Genius Fails," a history of the crash of Long-Term Capital Management, and d) better reference on Rumelt; Rumelt, Richard, ed., "Fundamentals Issues in Strategy," Harvard Business School Press, ©1994.

Reviewer: Karl Hasslinger

Currently a senior executive with a large defense hardware manufacturer, Hasslinger was a career U.S. Navy Submariner. He was formerly the Military Assistant to Mr. Marshall in OSD/NA.

1—Hasslinger was generally favorable to the SMOS in its intent and its presentation.

2—Some of the examples of strategy efforts need more elaboration in order to convey the richness of the situation and the hurdles that the strategy was striving to overcome.

3—An example right at the front of the SMOS would help a lot to hook the reader into the strategy world.

4—Consider producing a version of the SMOS somewhat rewritten to apply to the defense contractor community. This version would include a more thorough treatment of the contractor's need to consider the long-term health of the corporation as well as the strategy end-point objective per se.

5—Include a more thorough treatment of the early period of the execution phase when the new actions called for by the new strategy are thrust upon the existing organization. There is a great danger of infant mortality at this crucial time.

6—Issues of personality impacts on staff team work should be discussed.

7—The references cited in Appendix A are too heavily weighted to the OSD/NA "school" of strategy thought. Add some contrarian references.

Reviewer: James Roche.

Currently a private consultant, Roche was a career Navy Line Officer, with experience as a Congressional staffer and as a member of the OSD/NA staff. After retirement from the Navy, he became a corporate planner and later Division President for a major aerospace manufacturing firm. Later he served as Secretary of the Air Force during the George W. Bush administration.

1—Roche was generally favorable to the intent of the SMOS and its presentation, but identified a number of critical missing pieces, as follows:

2—The descriptions of staff activities fail to cover the necessary interactions between the staffs and their leaders. Roche emphasized that close coupling is necessary over the life-cycle of the strategy because facts and perceptions and judgments change over time.

3—Roche listed a number of specific staff responsibilities to their leader: a) to understand and capture in clear written language the goals/objectives of the leader, b) to estimate the feasibility of achieving those goals, c) to seek legal and regulatory opinions as to the legitimacy of pursuing those goals/objectives, d) to evaluate the conformance of pursuing those goals/objectives to the culture and mores of the organization and the society and e) to develop communications that describe the efforts being undertaken to develop the strategy and the eventual strategy objectives and actions to the stakeholder and broader public communities, as appropriate.

4—The staffs are responsible for conveying those results to their leader in an understandable and convincing manner, particularly when the leader wishes the results were otherwise. In general the SMOS does not do a good job of describing the necessary close and repeated discourse that must take place among the staff persons and between the staff and their leader. In particular, Roche noted that the goals and needs of the leadership generally evolve during the strategy effort as new data and new insight is gained.

5—Roche noted that a very common and effective approach to strategy development was missing; namely, what he called "probing and exploring." This involves more that just finding data—it involves making small but overt moves that can be seen by opponents and the public, and closely observing their reactions as a way of generating a better estimate of reactions to possible larger scale moves in the future.

6—Roche noted that the critical role of strong leaders was not covered, e.g., Rickover, Wayne Meyer, Red Raborn, Ben Schriever, and others. Among the less well-appreciated value of such leaders was their ability to instill persistence in pursuing long-term goals.

7—Roche noted that although the SMOS does say that the "Execution Staff" has a duty to observe the execution and report thereon, the current text does not emphasize the necessity to observe the initial implementation with extra care and in a quick reaction mode.

8—Roche noted that the advantages of "core competancies" is not covered. A good reference is Prahalad, C. K. and Hamel, G. (1990), "Core Competency of the Corporation," Harvard Business Review, vol. 68, #3 pp. 79-91. For Roche, the attributes of good core competency are: a) valued by your customers, b) transferable to many products, and c) big barrier to entry. He cited three well-known core competencies: Honda—engines, Cannon—optics, and SONY—packaging.

9—With respect to the treatment of the Iraq sections in the SMOS, Roche suggested that prudence would suggest that both the example in Chapter 3 and in Appendix D be modified to include language with two points: a) this is how it looks at the end of 2010 and b) there are likely to be major developments in the future.

10—Roche lamented the style of the SMOS as having a "heaviness" and of not having enough places where examples and cautionary language are used to comfort the reader/user that the author understands what he is talking about.

Reviewer: Thomas Mehnken

Currently a professor of strategy at both the Naval War College and the Johns Hopkins University's School of Advanced International Studies, Mehnken has served in the policy and strategy staffs of the Office of the Secretary of Defense.

1—Mehnken was firm that some instructional material on strategy is needed by most OSD staff persons. The Workshop Version of the SMOS needs lots of work and revision in order to serve that purpose.

2—The title, Staff Manual on Strategy, is off-putting. It connotes a "cookbook" approach to strategy whereas strategy, in essence, is creative. He also found the "blue boxes" disruptive, preferring the traditional footnotes or endnotes format. He also found the use of italics to denote special terms disruptive. Italics should be reserved for their traditional role of emphasis.

3—At the OSD staff level, 5% of the effort is formulation and 95% is implementation. The SMOS could be even more firm on execution difficulty and importance. The content now is too high level and exhortative; it needs to have some detailed examples of what the typical problems are and how to work through them. For example, staffs are often too timid and self-deterred—how can they learn to be forthright without being disrespectful?

4—National Security Strategy (the U.S. term for Grand Strategy) is now very much more than national military strategy. Mehnken was a staff person on the recent Independent Review of the QDR chaired by Perry and Hadley. This expansion should be discussed fully in the SMOS. As it now stands, it is just an implied matter under the rubric of "partnerships" in Chapter 3.

5—More needs to be made of the need to change the strategy as the objectives change. Add some useful detailed techniques, with why they're useful, to perform such changes; and be forthright as to how the reluctance and hubris problems manifest themselves.

6—The issues of friction are huge. They need more emphasis in SMOS.

7—The treatments of Iraq are OK. He liked the suggestions of Roche to add: a) "as it looks at the end of 2010" and b) "it is an on-going matter and judgments could easily change in the future."

8—No need for a summary.

Reviewer: Thomas Ehrhard

Currently a Special Assistant to the Chief of Staff, U.S. Air Force, Ehrhard had a full career as an Air Force Officer. After retirement he was a staff member at CSBA for several years. He is the author of several books on strategy and military history.

1—Ehrhard views the need for something like the SMOS as important; there is no comparable book to fill the need.

2—The Workshop Version suffers from too broad a scope. It should focus down (to Military Strategy) for clarity and to appeal to the needful users. It needs a passage up front as to why the focus and why it is needed now.

3—The broad scope of the SMOS needs to be clear about the organizational level at which the strategy is being pursued. What are the levels above and what are the levels below? What are the responsibilities up and down?

4—The order of the Chapters is not correct. Lead with Chapter 2. Get the user interested.

5—He pointed to an inherent contradiction in the SMOS. On the one hand, it should not claim that using it will make brilliant strategists out of all comers. On the other hand, it does have the purpose of teaching the craft of strategy to those who want to become more proficient in strategy as a learnable discipline. He counseled a direct and open approach to the issue. He cited the effort of the Prussian leader Scharnhorst who conceived and implemented a general staff officer concept to bring strategy expertise to bear against Napoleon.

6—He judged the emphasis on "project-like" problems was much too strong. The operating definition and terminology itself of "end-point objective" has a number of bad connotations. In many cases, what is desired is to change the situation to one of advantage and to keep it that way. Not to get somewhere, raise the flag, and then walk away the next day. Strategy never stops.

7—Ehrhard noted that military strategies are often too narrow and too short-sighted. He proposed a three-pronged objective function: a) objectives for the target nation (the nominal adversary), b) objecitves for your own, domestic body politic, and c) objectives for third-party entities who have legitimate interests at stake. In that framework are issues of relative priority, feasibility, timing, and other matters depending on the situation.

8—Ehrhard noted that formal reviews, or Red Teaming, is not mentioned in the SMOS until way at the end. He believes it needs to be an integral part of the interactions among staffs and leaders throughout strategy effort. Ehrhard has some interesting techniques for evaluation of alternatives by Red Teams.

9—Ehrhard's list of characteristics of a good strategist: a) expertise in some relevant field, b) integration, the ability to understand other fields, c) collaborative skills, to work well with others, and d) a hard-work ethic.

10—He suggested that the issue of why strategy is hard deserved more work.

11—The strategist's original sin is to propose a strategy that is not feasible.

12—In general, the SMOS has too much sequential action without enough attention to review, revision, and restart.

13—On pp. 16-18, he found the definitions and flat-footed statements too narrow and not allowing for important other cases and considerations. For example, the preferences expressed for urgency, efficiency, and assurance work well for the strong guy, but the weaker guy does not have that luxury.

14—He suggested that we adopt the phrase, "the discipline of strategy," as a name for what we are trying to promote.

15—On page 29, the list of what can go wrong is much too narrow.

16—On page 32, the discussion of Black Swans seems out of place. Indeed the general discussion on pp. 32-33 seem jumbled.

17—In Chapter 3, the "Lessons to be Learned" are not always presented in the special nomenclature of the SMOS.

18—More books: a) J.C. Wylie, Classics of Sea Power Series, "Military Strategy: A General Theory of Power and Control," US Naval Institute Press, 1987 Annapolis, Covers cumulative stress as opposed to sequential action as a strategic approach, b) Everett Carl Dolman, "Pure Strategy" pub by Frank Cass London and NYC 270 Madison, copyright Dolman 2005, c) John Kingdon, "Agendas, Alternatives and Public Policy," and d) Richard Haass, "The Bureaucratic Entrepreneur," contains a useful diagram of relationships.

Reviewer: Ted Gold

Currently a private consultant, Dr. Gold had a long career in the aerospace industry, is a long-time member of the Defense Science Board, and spent a decade or so working with senior members of the Joint Staff and the Joint Forces Command to develop approaches as to *how* to implement Joint Visions 2010 and 2020.

1—The SMOS is not easy to read. The examples, or some of them, need to come much earlier to garner the reader's interest and to sell the author to the reader.

2—The approach to strategy is much too "project-like."

3—It needs more emphasis on "discourse" among the three staffs and their leaders, with good instruction and tips on how to make such discourse productive. Written forms of discourse are vastly preferred and need not be burdensome.

4—Red Teaming is much too thin. See excellent DSB reports on "how to." Add discussion of "pre-mortem" and "pogo team" techniques.

5—p. 18. The definition of strategy has a funny language problem as to whether the "set of actions" is proposed or accomplished.

6—pp. 18-19. The tension between a simple statement for clarity and the need to embrace the nuance and richness of real life strategy is not handled well. Perhaps the analogy of the architect could be useful here.

7—p. 27. The traditional five levels of strategy are under a lot of attack currently, because of the rise of the "strategic corporal." Relatively junior members now have to participate in several of the higher "levels" of strategy all the time. None of that new reality is captured in the SMOS.

8—p. 48. Add the Marine Corps at 29 Palms to the description of training. The Army NTC is at the brigade level, not the battalion level. Expand the discussion of training to the people part. Namely, add the concepts of: a) "mission, tasks, and standards" and b) open critique.

9—Add some discussion of the enduring success of the combat training as an institiution. Then contrast it to the "exercise" institution, which is thin.

10—Add Gold's chart to help the reader visualize the relationships among members of the Execution Team. In particular, in the military the instigator of the strategy controls some execution resources, but usually not all he needs.

11—Books: a) Ricks entry now in Appendix A re training, b) DSB report "Force Protection in Urban and Unconventional Environments," c) "Future Joint Force Concept" 21 August 2000, a report to the CJCS, and d) Colin Gray, "Fighting Words" Praeger Security International, Westport CT 06881 USA, copyright 2007 Colin S. Gray.

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Glossary

actions. Activities within a strategy that advance the purpose of a strategy from one set of circumstances to another set of circumstances, which is the objective of the action. See "What are Actions?" on page 23 in Chapter 2.

Addendum to the Supporting Technical Actions for the Proposal to Execute the Strategy. A deliverable for Chapter 11.

Addendum with Corrections for Errors of Omission and Commission to the Proposal to Execute the Strategy. A deliverable for Chapter 11.

agency. An organization that has a specific function associated with strategy development, approval, or execution. The function is identified with a leading word, as in Execution Agency.

Alternative to the Proposal to Execute the Strategy. A deliverable for Chapter 11.

antagonist. One of three forms of an opponent. Antagonists take competent, active efforts to advance their goals and take active efforts to impede your efforts to advance your goals. See Box 4, "Three Classes of Opponents," on page 22 in Chapter 2.

Approval Agency. The agency with approval authority over resources and permissions for activities needed to develop or execute a strategy.

Approval Authority. The person with authority to approve resources and permissions to develop or execute a strategy.

Approval Authority Augmentation of Execution Agency Consensus Agreement. A deliverable for Chapter 12.

Approval Authority Resource Commitment Agreement. A deliverable for Chapter 12.

Approval Package for the Proposal to Develop a Strategy. A deliverable for Chapter 7.

Approval Staff. The staff function primarily concerned with resources and permissions, and obtaining approvals for those resources and permissions. See "Role of the Approval Staff" on page 7 in Chapter 1.

Approval Staff Director. The dedicated leader of the Approval Staff.

Approval Staff Recommendation for the Proposal to Execute the Strategy. A deliverable for Chapter 11.

Approval Staff Recommendation to the Approval Authority. A deliverable for Chapter 7.

Assessment of Design Features of Actions and Objectives. A deliverable for Chapter 13.

Assessment of End-Point Objective and Value of Adjustments. A deliverable for Chapter 15.

Assessment of Practices in Measuring and Reporting Progress. A deliverable for Chapter 13.

Black Swan. A type of event that is very rare and has serious downside or upside consequence. Because the event may occur, it warrants actions to anticipate its occurrence and prepare to mitigate its downside consequences or exploit its upside opportunities. See "Using Surprises, Trickery, and Black Swans" on page 62 in Chapter 3.

C&O. Acronym for *constraints and obstacles*.

C&O Items. Particular, important constraints and obstacles to catalog and deal with. See "Creating a Constraints and Obstacles Catalog" on page 83 in Chapter 6.

CEO. Acronym for Chief Executive Officer.

competitor. One of three forms of an opponent. Competitors take actions to advance their interests, mainly at your expense. But those actions are limited by law and custom, as in athletic contests or business in a country operating under the rule of law. See Box 4, "Three Classes of Opponents," on page 22.

concurrency. A strategy wherein actions are taken concurrently for the purpose of achieving an end-point objective in the shortest feasible time.

constraints. Features within the field of action that reduce the speed at which certain actions can take place or that limit the manner in which certain actions can take place. See "What are Constraints and Obstacles?" on pages 24-25 in Chapter 2.

constraints and obstacles (C&O). Features within the field of action that are either constraints or obstacles. See "What are Constraints and Obstacles?" on page 24 in Chapter 2.

Constraints and Obstacles Catalog. A deliverable for Chapter 6 that is updated as a deliverable for Chapter 8.

counter-action. A targeted action intended to directly thwart an action by an opponent.

counter-measure. A generic term referring to a specific type of equipment or a specific technique intended to reduce the effectiveness of an opponent's specific type of equipment or specific technique. For example, a shield is a counter-measure to a sword. Counter-measures may have broad or narrow applicability.

CSBA. Acronym for Center for Strategic and Budgetary Assessments.

dedicated unit. A special group within a larger operating organization charged with a particular oversight or performance task on a continuing basis in order to provide a high quality of performance and a continuity of expertise.

Development Agency. The agency for your strategy effort that supplies most of the Development Staff. Frequently, this staff agency is concerned with planning a variety of future activities.

Development Staff. The staff for your strategy with the principal responsibility for designing and developing the strategy. This staff also has a major responsibility to seek and obtain resources and permissions needed for strategy development and execution. See "Role of the Development Staff" on page 4 in Chapter 1.

Development Staff Director. The dedicated leader of the Development Staff.

domain expert. A person with extensive and intensive knowledge of relevant aspects of the field of action in which your strategy is to be executed. See "Domain Expert" on page 33 in Chapter 2.

Draft Alternative Strategies. Deliverables for Chapter 4 and updated for Chapters 6 and 9.

end-point objective. The concrete embodiment of the often vague and ill-defined goal of your strategy. See "End-Point Objective" on page 19 in Chapter 2.

Execution Agency. The principal agency within your Execution Team.

Execution Agency Agreement to Undertake the Strategy. A deliverable for Chapter 12.

execution of the strategy. The actual performance of the coordinated actions set forth in your strategy, with the intent to achieve your end-point objective.

Execution Staff. The staff, with responsibility to all Stakeholders, whose function is to oversee and report on the actual execution of your strategy. It is not the staff to the Execution Team. See "Role of the Execution Staff" on page 9 in Chapter 1.

Execution Staff Director. The dedicated leader of the Execution Staff. See "The Position of Execution Staff Director" on page 10 in Chapter 1.

Execution Team. An assembly of a number of individuals and organizations charged with execution of the approved strategy. The Execution Agency is the principal member of the Execution Team. See Chapter 12, "Building an Execution Team."

failure mode. A generic term to designate a defect in the strategy effort likely to lead to material failure of the strategy.

field of action. A shorthand term to denote the range of actions available in constructing a strategy. Rules, custom, and laws may impose limits on the field of action. Changes in the field of action, if feasible, usually lead to competitive advantages. See "What is a Field of Action?" on page 23 in Chapter 2.

flanking maneuver. A military action that is an example of changing the field of action. See "Making a Flanking Maneuver" on page 60 in Chapter 3.

friction. A generic term to denote the common tendency for actions to go astray or take much longer than anticipated. See "What is Friction?" on page 25 in Chapter 2.

game theory. A formal technique for analyzing the opportunities and outcomes of contests between competent opponents. For its application to strategy development, see "Using Some Concepts from Game Theory" on page 37 in Chapter 2, "Using Game Theory Concepts to Assess a Range of Actions" on page 58 in Chapter 3, "Analyze at the Action Level Using Game Theory Concepts" on page 103, and Box 10 on page 104 in Chapter 9.

generic strategy types. Types of strategies that have applicability across many substantive domains. See "Generic Strategy Types with Applications and Pitfalls" on page 53 in Chapter 3.

governance structure. The supervisory function governing the execution of the strategy. Its importance derives from the somewhat informal, in many cases, formation of the Execution Team. See "Address the Choice of Execution Agency and Top-Level Governance" on page 110 in Chapter 10.

GPS. Acronym for global positioning system.

Grand Strategy Level. The highest of the five levels of Western military strategy in common usage. See Box 5 on page 27 in Chapter 2.

ICBM. Acronym for intercontinental ballistic missile.

intermediate objective. An objective in the middle of the strategy. You cannot reach it in a single action from the starting point. It may or may not provide a springboard for reaching the end-point objective in a single action. See "Intermediate Objective" on page 20 in Chapter 1 and "Selecting Some Candidate Intermediate Objectives" on page 73 in Chapter 4.

key concepts. The concept of a strategy plus its seven supporting concepts—objectives, opponents, actions, field of action, constraints, obstacles, and friction—as described on pages 18-25 in Chapter 2.

knowledge base. The organized knowledge upon which you can build a strategy. Unlike an encyclopedia, which contains what is known, the knowledge base contains both what is known and relevant as well as what is relevant but not yet known. See "What is a Knowledge Base?" on page 28 in Chapter 2.

Knowledge Base Catalog. A deliverable for Chapter 5.

Knowledge Base Improvement Program. A deliverable for Chapters 5 and 6.

Knowledge Base Weakness Assessment. A deliverable for Chapter 5.

levels of strategy. For nested strategies, higher levels of strategy are expressed in terms of large individual actions that are, in reality, made up of many smaller actions. The smaller actions are identified as the lower levels. Western military strategy in common usage has five levels, which are described in Box 5 on page 27 in Chapter 2.

List of Counter-Measures and Responses to Potential Injurious Actions by Opponents. A deliverable for Chapter 14.

List of Critical Impacts on Draft Alternative Strategies. A deliverable for Chapter 8.

List of Missing Items, Uncertainties, and Unknowns. A deliverable for Chapter 4.

List of Potential Injurious Actions by Opponents. A deliverable for Chapter 14.

military campaign. A coordinated series of military operations intended to achieve a specific objective. Normal usage includes only the actual operations, not the planning of the operations.

military strategy. Strategy as applied to military matters, which is often divided into five levels for Western militaries. See Box 5 on page 27 in Chapter 2.

Mitigation Improvement Program. A deliverable for Chapter 8.

Mitigation Improvement Program Report. A deliverable for Chapter 8 to update as a deliverable for Chapter 9.

Nay-Sayer Status Report. A deliverable for Chapter 14.

nay-sayers. Persons who take it upon themselves to criticize a strategy or other program. Often they do not reveal their true motivation. See "Handling Nay-Sayers" on page 128 in Chapter 14.

nested strategies. Akin to the nomenclature of computer software, lower level strategies that make up actions in higher level strategies are often called nested strategies. See "Nested Strategies and Responsive Actions" on page 25 in Chapter 2.

objective. A set of circumstances reached by taking one or more actions. See "What is an Objective?" on pages 18-20 in Chapter 2.

obstacles. Features within the field of action that block certain otherwise attractive actions and that remain in place for an awkward length of time until or unless specific actions are taken that can remove them.

off-ramp. A major change in a strategy taken during the execution phase, in response to actions taken by opponents of all three types or in response to failures to perform by your own Execution Team. See "Using Off-Ramps for Major Changes in Circumstances" on page 129 in Chapter 14.

Office of Net Assessment. A staff function within the Office of the Secretary of Defense concerned, *inter alia*, with strategy and competitive advantage.

Office of the Secretary of Defense. The formal name of the large staff directly supporting the Secretary of Defense of the United States.

OODA Loop. Acronym for a repetitive loop of observation, orientation, decision, and action brought to prominence by John Boyd.

operating environment. The combination of terrain, weather, economy, politics, press coverage, cultural trends, and what have you, over which your strategy has little direct control. It affects the opportunities, constraints, and obstacles of your strategy. Often considered an opponent in its own right. See Box 4, "Three Classes of Opponents," on page 22 in Chapter 2.

Operational Level. The middle level of the five levels of Western military strategy. See Box 5 on page 27 in Chapter 2.

opponent. In the most general sense, whoever or whatever is getting in the way of achieving the end-point objective of your strategy. It is useful to differentiate three broad classes of opponents. See Box 4, "Three Classes of Opponents," on page 22 in Chapter 2.

OSD. Acronym for Office of the Secretary of Defense.

OSD/NA. Acronym for Office of the Secretary of Defense, Office of Net Assessment.

Plan for Presentation about End-Point Objective Assessment and Adjustments. A deliverable for Chapter 15.

Plan for Presentation about Follow-On Activities and Team Disposition. A deliverable for Chapter 15.

potential actions. An action you judge is feasible for your opponent to take, at least under some circumstances.

potential futures. Future sets of circumstances that your strategy might face as a consequence of feasible actions by your opponent and actions that could occur on their own within the operating environment, such as weather changes.

Presentation Materials. A deliverable for Chapter 10.

Presentation Package for the Proposal to Develop a Strategy. A deliverable for Chapter 7.

Procedure for Dealing with Off-Ramp Events. A deliverable for Chapter 14.

Procedure for Dealing with Surprises. A deliverable for Chapter 14.

Proposal for Follow-On Activities and Team Disposition. A deliverable for Chapter 15.

Proposal to Develop a Strategy. A deliverable for Chapter 6.

Proposal to Execute the Strategy. A deliverable for Chapter 10.

proximate objective. An objective that can be reached from the starting point in a single action. See "Proximate Objective" on page 19 in Chapter 2.

Report on Actual Progress in Execution. A deliverable for Chapter 13.

Review Team. A formal team set up to review, comment, and make recommendations on your strategy before you present it for approval to execute. See "Setting Up an Outside Review Team" on page 113 in Chapter 11.

robust strategy. A strategy that can continue to function as intended in the face of certain adverse actions by opponents of all three classes. See Box 4, "Three Classes of Opponents," on page 22 in Chapter 2 and "Testing a Strategy for Robustness" on page 35 of Chapter 2.

single action. An action that an existing authority can direct and for which a substantial expectation of success exists in spite of all known opponents, obstacles, and constraints.

SP. Acronym for Special Projects. See "The Navy Ballistic Missile Program," on page 46 in Chapter 3.

spin-off. A particular form of off-ramp used to exploit an unexpected opportunity not directly associated with the established end-point objective.

staff cadre. The *ad hoc* group of people assigned to work on a project full time.

staff director. The dedicated leader of a staff.

Stakeholders. Individuals and organizations with a legitimate interest in the content and execution of your strategy. Important components of your support base.

Stakeholders' Staff Support Consensus Agreement. A deliverable for Chapter 12.

starting point. The actual set of circumstances from which your strategy must start. See "Describing the Starting Point" on page 72 in Chapter 4.

Starting Point List. A component of the Draft Alternative Strategies deliverable for Chapter 4.

strategic thinker. A person with a gift for thinking about problems in strategy terms. For guidance on how to use such persons in strategy development, see "Strategic Thinker" on page 32 in Chapter 2.

strategy. A set of determined and coordinated actions whose purpose is to achieve an end-point objective. See "What is a Strategy?" on pages 17-18 in Chapter 2.

strategy enterprise. The sum total of activities involved in designing, developing, and approving a strategy. Does not include actual execution.

strategy levels. For nested strategies, higher levels of strategy are expressed in terms of large individual actions that are, in reality, made up of many smaller actions. The smaller actions are identified as the lower levels. Western military strategy in common usage has five levels. See Box 5 on page 27 in Chapter 2.

support base. Organized data about relevant persons and organizations that can support or oppose your strategy. As with the knowledge base, the support base includes descriptions of items that are relevant but not yet known. See "What is a Support Base?" on page 29 in Chapter 2.

Support Base Catalog. Deliverable for Chapter 5, later updated as a deliverable for Chapter 10.

Support Base Improvement Program. Deliverable for Chapters 5, later updated as deliverables for Chapters 6 and 10.

Support Base Weakness Assessment. Deliverables for Chapter 5, later updated as a deliverable for Chapter 10.

Tactical Level. The second lowest level of the five levels of Western military strategy. See Box 5 on page 27 in Chapter 2.

Technical Level. The lowest level of the five levels of Western military strategy. See Box 5 on page 27 in Chapter 2.

Theater Level. The middle level of the five levels of Western military strategy. See Box 5 on page 27 in Chapter 2.

waiver authority. Authority delegated to particular persons to enable them to waive particular regulations for specific instances and purposes. Most government regulations have such authorities, although it is usually not well known who can waive what.

work program. The collection of activities, defined by deliverables, that must be accomplished to advance some specific segment of the life cycle of your strategy.

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