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The essence of Assumption-Based Planning

You envision a romantic dinner with a special someone. You are nervous; you want to make sure nothing goes wrong. You make a list of all those steps you need to take to make that special dinner a reality. You keep adding and revising the steps as new eventualities come to mind.

A group of U.S. military officers gathers in 1940 to look into the future to identify events that could plausibly lead to conflict. One of them suggests an air attack by Japan on a U.S. Navy base in Hawaii—a suggestion that is dismissed out of hand.

We cannot know the future perfectly, but we can imagine the future and make plans for it by making some assumptions—or judgments—about what that future could be like. Some of the assumptions we make are pretty likely to come true; others are more vulnerable to uncontrollable and unforeseen events; still others seem quite unlikely. Some of the assumptions are likely to be very important to the success of the plan; others will be more peripheral. Assumption-Based Planning (ABP) is a tool designed for improving the robustness and adaptability of plans—for reducing the number of avoidable surprises in any plan or planning. It is primarily a "post-planning" tool (recognizing that planning is an iterative process) that concentrates on the assumptions in an already-developed plan that are most important to the plan's success and that are most uncertain. Specifically, ABP works to decrease the risks that assumptions represent.

2   *Assumption-Based Planning*

Yet, how effective a plan might be or how likely it is to succeed does not drive ABP. The driving force behind ABP is the view that it is important to confront, explicitly and honestly, the uncertainties facing an organization and its planners.

HOW DOES ASSUMPTION-BASED PLANNING WORK?

The five basic steps in ABP are shown in Figure 1.1.

All plans—from the plan for dinner at a restaurant, to the plans of a global corporation, to the plans of an international alliance—make assumptions about the future.

The five steps of Assumption-Based Planning can be seen even in the plan for dinner at a restaurant. Think of someone who is making a plan for dinner at a nice restaurant for the very first time. Here the planning and its assumptions are much more intentional and visible, much less automatic.

The first step in ABP is to identify the assumptions in the plan. The plan for a quiet dinner on Friday for two on the patio of a nice restaurant contains several assumptions, the foremost being the availability of the two participants on Friday and the availability of a table on the patio at the restaurant, then the weather on the patio, the traffic around the restaurant, personal finances, and so on. The plans for an interna-
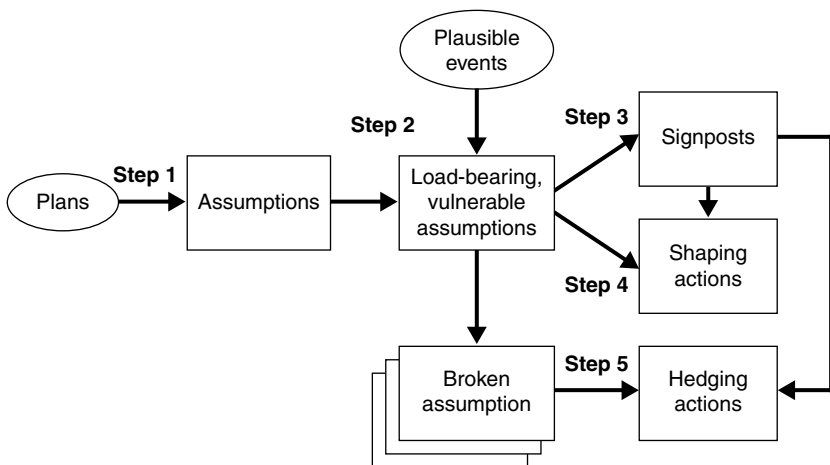

Figure 1.1. The Basic Steps and Flow of Assumption-Based Planning

tional alliance are likely to contain hundreds of assumptions at various levels of detail.

The next step in ABP is to identify the assumptions upon which the success of the plan most heavily rests—the "load-bearing" assumptions—and the assumptions that are most vulnerable to being overturned by future events. Assumptions that are both load-bearing and vulnerable are the most likely to produce nasty surprises as the plan unfolds.[1]

If the dinner plan contains a certain special someone, that someone's availability is a load-bearing assumption. If the plan is for a first date, that could be a very vulnerable assumption. If the dinner plan is for your spouse's birthday, an assumption about availability is probably pretty solid.

To deal with potential surprises, ABP produces three things: signposts, shaping actions, and hedging actions. *Signposts* are warning signs that can be used to monitor those assumptions that are most likely to produce surprises. Signposts are events or thresholds that, if detected, signify that a vulnerable assumption is broken or dangerously weak and that management or planning action is called for. In the dinner example with the special someone, a "no" response to your invitation is a clear sign that the plan is doomed and a new plan is called for. A corporation that has planned on the anticipation of a favorable future regulatory ruling faces the same kind of potentially heartbreaking signpost.

Another kind of signpost to monitor in the restaurant example would be the weather. The plan to dine on the patio undoubtedly contains an assumption about nice, warm weather—something that cannot be guaranteed beforehand or predicted with certainty. The vulnerability of that assumption can, however, be monitored through weather reports. A forecast for evening rain on the morning of the planned event would be a significant signpost. It would be a clear sign that the assumption of nice, warm weather is in trouble. If that signpost is detected, it may be time to postpone the quiet dinner to another day or to consider moving it indoors.

Shaping actions are intended to help shore up uncertain assumptions, to control the future as much as possible. Planners generally know how

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1 In earlier documentation of ABP (Dewar and Levin 1992; Dewar et al. 1993), these were called the important, vulnerable assumptions. The reasoning behind the change is taken up in Chapter 2.

they would like an assumption to play out. Shaping actions are de-
signed to help the assumption play out to the planners' liking. Not
much can be done to control the weather, but an assumption about get-
ting a nice table on the patio can be shored up by phoning ahead for a
reservation. Similarly, an assumption about getting to the restaurant on
time can be shored up by checking to be sure there is enough gas in the
car.

Hedging actions better prepare for the possibility that an assumption
will fail, despite efforts to shore it up. Hedging actions typically come
from thinking through a plausible scenario in which an assumption
collapses and asking what might be done now to prepare for that sce-
nario. In the dining example, suppose the car has been acting up, but
you are assuming it will get you to the restaurant. Now imagine the car
breaking down. If it breaks down before you leave the house, maybe
you could borrow a neighbor's car. A hedging action would be to talk
with the neighbor today, explain the situation, and ask if it would be
possible and permissible to borrow a car Friday night in the event yours
were to break down. Now imagine the car breaking down on the way
to the restaurant. One hedging action would be signing up for an auto
club that could come rescue you in this situation. Insurance is a classic
hedging action.

To further emphasize the difference between a shaping action and a
hedging action, we view taking a balky car into the shop for repair to
keep it from breaking down as a shaping action and taking steps to en-
sure you can get to the restaurant in the event the car *does* break down,
as a hedging action. Shaping actions are usually easier to think about
and generate than are hedging actions.

A planner using Assumption-Based Planning cannot hope to identify
all the possible ways in which a plan could fail, nor hope to prepare a
plan for any eventuality. There are any number of events that could
intervene to disrupt any plan. In the dinner example, the eventual plan
can still fall to a variety of events that range from common natural dis-
asters such as mudslides, fires, or electricity outages, to man-made dis-
asters such as a terrorist group taking over the restaurant, the kitchen
crew going on strike, a family emergency, or an accident, to more fan-
tastical disasters such as a meteorite strike or botulism scares. The pri-
mary aim of ABP is to ensure that a plan is cognizant of and responsive
to the major uncertainties inherent in the assumptions that underlie it.

Many of the assumptions upon which the plan rests are voluntarily made by the planners. Those voluntarily made assumptions should be most explicitly recognized and dealt with. Surprises from the failure of those assumptions should be most avoidable.

WHAT IS THE VALUE-ADDED OF ABP?

Good planners confront uncertainties as a matter of course. The primary value-added of Assumption-Based Planning is in helping planners identify the important uncertainties that necessarily accompany the assumptions of any plan. What ABP adds is a double-check on the planners' awareness of uncertainties. ABP adds techniques for rooting out uncertainties that have been overlooked or forgotten, or that are buried. There are at least four ways ABP helps uncover these hidden—or implicit—assumptions.

Identifying implicit assumptions in the plan

Any significant plan contains dozens or hundreds of assumptions—most of them not explicitly stated and most of them either non–load-bearing or invulnerable. Assumptions such as "The sun will rise tomorrow" or "People will still buy electrical products" or "Life will go on pretty much as it has for the last few years" are all part of what most of us usually assume about the future. However, among all those "trivial" assumptions can lurk a hidden, implicit assumption that is both load-bearing and vulnerable and that can be dangerous.

In the dining example, the planner could well assume that the special someone would love the seafood menu at the restaurant. This is a load-bearing, vulnerable assumption that is likely to remain implicit and un-considered. If it does, it carries with it the seeds for disaster if the other person is allergic to or hates seafood. If this assumption is recognized, planning for it becomes a rather trivial matter (make sure to check with the special someone during the invitation), and either enhances the probability for success of the plan or leads naturally to a different, more workable plan.

ABP offers specific techniques (see Chapter 3) for improving the chances of identifying the implicit, load-bearing, vulnerable assumptions of a plan.

Bringing other minds into the planning process

Identifying the assumptions underlying a plan provides a window into the thinking of planners, enabling other people to find implicit or hidden assumptions.

There is general agreement in the planning literature that it is important to the success of a plan to represent as many of an organization's diverse perspectives as possible in the planning process. From a practical standpoint, of course, it is not easy to get a diverse group together long enough to do planning or to figure out how to get them all talking the same language.

But planning occurs iteratively. ABP works as a "post-planning" tool that starts with the results of some planning effort.[2] By identifying the assumptions underlying the plan, ABP enables others to see not only what the planners came up with but the assumptions that underlie those results, making it easier for someone to come in after the fact and understand the planners' thinking. This insight into the planners' minds increases the chances for someone with a different perspective to identify implicit or hidden assumptions, particularly if a list of assumptions is presented with the caveat "These are all the load-bearing assumptions we could think of." This double-check encourages a fresh observer to add something that might seem obvious but that is not explicitly on the list. Some of the most critical implicit assumptions are found in exactly this way.

Uncovering assumptions caused by planning

The act of planning can itself introduce unrecognized or implicit assumptions to a plan, and ABP can help uncover them.

The typical planning process includes an analysis of the *external environment*—the part of the world that is largely beyond the control of

2   Post-planning is in quotes to acknowledge both that planning is never completed and the more recent view that even strategic planning needs to be viewed as a continuous process. However, even where the planning processes are supposed to be continuous, there is usually a point at which the planning is "frozen" long enough to have management give it the blessing it needs in order for the actions it recommends to be put into operation.

the organization—for threats and opportunities. Part of the planning process concentrates on producing a plan or strategy for handling those threats and opportunities. However, the process of creating the strategy or plan that addresses external threats and opportunities can introduce *new* threats or opportunities. This is a bit difficult to see in the simplicity of the dining example, so let me shift to a business example.

Suppose Company A is faced with a situation in which a major competitor has just revamped its manufacturing capabilities and is about to be able to produce what Company A manufactures, at equivalent quality and lower cost—clearly a threat to Company A. This threat becomes part of the strategy problem facing Company A, which has several ways to approach it.

Company A may decide as its strategy to revamp its own manufacturing capability in a somewhat novel way. That novelty itself may introduce new uncertainties about, say, equipment delivery that were not part of the original analysis of the external environment. Further, it may stretch the financial capabilities of Company A and introduce an implicit assumption that interest rates will stay stable for three years, a vulnerability that was not part of the original vulnerabilities and one that the company may overlook in its enthusiasm for dealing with the challenges of the novel strategy. In this way, the creation of a plan has itself introduced both explicit and implicit load-bearing, vulnerable assumptions that were not part of the original environmental analysis.

Revisiting old assumptions

ABP can help an organization identify assumptions that were once explicit but that have become implicit.

All too often, an organization will create and successfully execute a strategic plan, only to forget the original assumptions that made it work. Those original assumptions can get buried and forgotten in the standard operating procedures and the culture of the organization (the habits and attitudes that define how things are done in an organization). Worse, they can become unchallengeable because they are accepted by everyone in the organization. ABP provides an organization with a tool for systematically revisiting the assumptions of even a plan that is succeeding, to make sure those assumptions are still valid.

WHO HAS USED ABP AND HOW DID IT FARE?

ABP was developed in a military setting, and the ABP developers and others have used Assumption-Based Planning in a variety of planning settings. ABP has now been applied to U.S. Army, Navy, Air Force, and Marines planning and has been used by planners in at least two foreign militaries. ABP has been used to improve plans for public enterprises, ranging from a small nonprofit firm to a large water district. It has been applied to test plans in private businesses, ranging from a small specialty shop to a Fortune 100 company. It has been used to test plans in higher education, at individual institutions as well as at the state board level. Although those applications were often proprietary, many of the lessons learned and some of the examples in this book come directly from those experiences. Two applications of ABP can be found in Dewar and Levin (1992) and Peters, Larson, and Dewar (1998).

As to how ABP has fared, it is difficult to measure directly the number of surprises ABP has prevented. However, prevented surprises can be measured indirectly by talking about the two mechanisms of ABP that have proven especially effective.

- First, in using ABP techniques for identifying assumptions underlying an organization's plans, we *have* identified load-bearing, vulnerable, implicit assumptions—often to the amazement of the planners. In a recent application for a manufacturing company, the planning portfolio appeared to assume that the economy would continue along its ahistorical bullish way for the foreseeable future. When we suggested this as an assumption to the head of planning, he seemed a bit taken aback—which took *us* aback. On reflection, however, he agreed that thinking about a couple of downturn situations would be a prudent step. That was in late 2000. The market turned bearish before the organization had a chance to fully consider such situations. Although the organization was not entirely prepared for a downturn, it also was not entirely surprised.

  Another, military application of ABP offers a contrast of no surprise. We uncovered an implicit assumption in proposed doctrine that the United States would maintain its lead in sophisticated long-range weapons. At the time, 1987, that was a reasonable, but not foreordained, assumption. It has since become a more secure (if somewhat less relevant) assumption. But in 1987, identifying it as a load-bearing, vulnerable assumption led to changes in the doctrine

that explicitly addressed the importance of the United States' main-
taining its lead in long-range weapons. A typical application of ABP
identifies at least one or two such implicit assumptions. At the least,
planning surprises from those assumptions become less likely.

- The generation of scenarios, or alternative futures, is the other ABP
  mechanism of interest that demonstrates its worth. Royal Dutch/Shell
  (see, for example, Schwartz 1991) and others have shown that the
  generation of scenarios can be an effective means of avoiding plan-
  ning surprise. ABP generates scenarios from broken load-bearing,
  vulnerable assumptions as a means of identifying hedging actions.

WHAT ARE ABP'S STRENGTHS AND WEAKNESSES?

Numerous applications of ABP in a variety of planning situations
have given us an appreciation of both its strengths and weaknesses.[3] In
addition to the value-added aspects described above, ABP has some ar-
guable strengths.

Strengths

ABP works well in very uncertain times. In more stable times, an or-
ganization's world changes slowly and there are likely to be fewer vul-
nerable assumptions or uncertainties about the future. The fewer uncer-
tainties there are about that future, the fewer are the assumptions that
need to be made about that future. The fewer assumptions there are,
the less likely it is that load-bearing, vulnerable assumptions will slip
past planners. In a fairly stable world, ABP is not likely to uncover
much of surprise or add much in robustness. The more chaotic the

3   In 1995, I participated in a U.S. Air Force–sponsored symposium on differ-
    ent strategic planning methodologies. Mine was the only presentation that
    included a discussion of the methodology's strengths and weaknesses. I
    thought it odd then, and still do, that developers of planning tools and
    methods do not do a better job of discussing the limitations of their ap-
    proaches. I understand the desire to emphasize the strengths. My sympa-
    thies, however, are with beleaguered planners faced with a plethora of
    planning methodologies and tools. No one knows better than the develop-
    ers of a planning method or tool what its limitations are. I consider it an
    abdication of responsibility (if not somewhat dangerous) to leave to others
    an evaluation of where a method or tool is most and least appropriate.

times and the greater the uncertainty about the future, the more as-
sumptions planners are likely to have to make in order to develop a
plan—and the more likely it is that some load-bearing, vulnerable as-
sumptions will slip past their notice. It is here that ABP is most likely to
add value.

ABP generates relevant scenarios systematically. Scenarios are a
common means for thinking about the future during planning. How-
ever, the generation of those scenarios is generally done in an *ad hoc*
manner. Often, outside consultants are asked to prepare scenarios for
an organization to use in its planning. Generally wonderfully re-
searched and detailed, these scenarios are often developed without seri-
ously involving the requesting organization, and the resulting scenarios
are often difficult to relate to the exact planning challenges of the orga-
nization. Further, the scenarios are not generally "complete": They
do not cover all the organization's planning challenges. If, as with ABP,
planners identify the major assumptions an organization is making
about the future, scenarios generated from broken assumptions are
automatically relevant to the organization. Generating scenarios in this
way will not guarantee a complete set of scenarios, but starting with the
heaviest load-bearing and vulnerable assumptions provides greater con-
fidence that the most important scenarios have been considered.

ABP can help connect environmental scanning to planning. To try to
understand business environments, businesses today do a good deal of
environmental scanning to produce characteristics of the external world
to which the organization wants to pay attention. But, as with the sce-
narios above, connecting those characteristics to the organization's
plans can be difficult. By understanding explicitly what assumptions
about the world *led* to the plans, it is easier to relate the assumptions
themselves more directly to the results of an environmental scan or the
characteristics of a business environment.

ABP ties actions to specific assumptions. Using ABP allows signposts
and shaping/hedging actions to be associated with specific assumptions
about the future. As the vulnerability of a given assumption changes,
those changes can be quickly connected to the corresponding shaping
and hedging actions for that assumption. This level of traceability of
actions to assumptions is rare in planning methodologies.

ABP applies to any and all plans. Since all plans contain *some* as-
sumptions about the future, Assumption-Based Planning can be used to