Part 8
Policy Analysis: What to Change, What to Change To, and How to Make the Change
By H. William Dettmer

Changing things is central to leadership; changing them before anyone else does is creativeness.
—Jay’s First Law of Leadership

Control is the child of planning; crisis management should not be confused with leadership—it’s janitorship.
—H. William Dettmer

All organizations, from families to nations to societies, have policies. A policy is a guiding principle, procedure, or course of action intended to influence and determine decisions, actions or outcomes. [1] Policies tell us how to act or behave under a certain set of conditions.

Formal or Informal
The policies that most of us are familiar with are usually written and generally widely known. Typical examples are laws, regulations, standard operating procedures, or “house rules.” But policies can also be unwritten practices, customs, or etiquette. If you’ve ever heard someone say, “That’s the way we do things around here,” or “That’s not the way we do things around here,” you’ve heard the expression of informal or unwritten policy.

Policies, whether formal or informal, provide stability and a sense of security for the members of an organization—the comfort of the familiar, a sense of security and predictability. People know what to expect, today and tomorrow.

Policies Obsolesce
But there’s a down side to stable, comfort-inducing policies: they tend to be accepted at face value over time, and their continuing relevance is never challenged. This can be particularly dangerous to organizations when the real-world environment changes. Some of such changes are revolutionary, but most are evolutionary. In either case, when there’s a “disconnect” between the way the real world is working and an organization’s policies, organizational success is likely to suffer. Almost every significant problem or challenge faced by any organization can usually be attributed to the divergence between reality and a policy that was put into place for circumstances or conditions that are no longer relevant.

Identifying and Changing Obsolete Policies
The core of progress and performance improvement, then, is the determination and expeditious change or elimination of invalid policies. Which necessarily raises several questions: How do we uncover detrimental policies? What should we replace them with? And how should we go about it? One of the fastest, most effective ways to model reality and identify faulty policies is the Logical Thinking Process.

The Logical Thinking Process
The Logical Thinking Process is a graphical representation of cause-effect logical relationships. It was conceived in the early 1990s by an Israeli physicist named E.M. Goldratt as a way to analyze the performance of complex organizational systems. Its foremost value is as a policy analysis and business decision tool. As such, it is very much a qualitative, not a quantitative tool. The thinking process is designed to provide the answers to the only three questions any manager needs to know: a) what to change, b) what to change to, and c) how to make the change happen. The thinking process is comprised of five distinct logic trees:

1. Goal Tree
2. Current Reality Tree
3. Evaporating Cloud (Conflict Resolution Diagram)

4. Future Reality Tree

5. Prerequisite Tree

The **Goal Tree** helps establish the system’s goal, the 3-5 critical success factors that must be achieved to realize the goal, and the necessary conditions that must be satisfied in order to achieve the necessary conditions. In completing the Goal Tree, an organization defines the benchmark of desired performance—those high-level milestones that define the organizations desired course of travel.

The **Current Reality Tree** is a cause-and-effect diagram that explains what policies are behind the divergences, or gaps, between what’s happening in the real world and the desired course determined in the Goal Tree. The originating root causes are inevitably the policies that are inadequate or outdated. The terminal conditions in the diagram are undesirable effects—statements of deviation from the desired course. In between is a clear representation of the component interdependencies that produce systemic results, a view of the system that is typically invisible to observers in their day-to-day work.

The **Evaporating Cloud**, often called a Conflict Resolution Diagram, is a necessary condition diagram intended to help resolve basic conflicts surrounding the need to change policies. It succinctly exposes the contending arguments (change versus don’t change) and, most important, the underlying (usually hidden) assumptions behind each side of the change issue. Surfacing these hidden assumptions is the key to resolving the conflict in a win-win manner.

The **Future Reality Tree** is a kind of solution “bench test.” It’s a way of logically demonstrating that a proposed change will deliver the desired results before investing substantial time, money, and energy in implementing it, only to find out that it was doomed to fail in the first place. By constructing a Future Reality Tree, change agents can enable others in the organization to see how the change is expected to unfold so that serious omissions or errors can be detected and corrected ahead of time. This tree is a kind of “insurance policy” that the contemplated actions are the right ones.

The **Prerequisite Tree** is an implementation planning tool. It helps to structure the complex activities of executing the policy change (the effectiveness of which was validated in the Future Reality Tree). The component activities and tasks—what must happen first, and the obstacles that must be overcome—are arrayed in the sequence required for expeditious, effective execution. The finished Prerequisite Tree usually depicts an interdependent network of activities that are easily convertible into a project activity network. In other words, change implementation can be managed as a formal project, with discrete performance, cost, and schedule parameters.

**An Example: The Solomon Trees**

Nothing substitutes for a good picture. If you follow the links for each tree, you’ll see a complete set of thinking process trees constructed to show how the dilemma faced by King Solomon in the Old Testament of the Bible might have been resolved using the thinking process.

**NOTE:** The trees included here were expanded and adapted from thinking process trees originally constructed by Dr. Eric Noreen of the University of Washington. The original trees were first published 1995, in Dr. Noreen’s book on the Theory of Constraints. [2]

Now, Solomon didn’t really use the thinking process—it hadn’t been invented 3,000 years ago when this story reputedly took place. But it could have been used. And, more important, it’s representative of the kinds of qualitative problems, the ones not possible to quantify easily, that the thinking process can be so valuable in solving.

For those not familiar with the original story, King Solomon was asked by two women to decide which of them should have custody of a single baby that each claimed was her own. Solomon was widely respected throughout Israel for his wisdom, and everyone expected him to justly resolve the dispute. Here’s the full story, in the original King James version. [3]

“There came before Solomon two women that were harlots. And one of the women said, ‘This woman and I were delivered of children in the same house within three days of each other. But this woman’s child died in the night because she overlaid it.’

"And she exchanged her dead baby for mine while I slept. But she claims the dead baby is mine and the living one is hers.”
Solomon had a challenging problem to solve. Let’s assume that he knew how to use the Logical Thinking Process. If so, he would have first constructed a Goal Tree to help keep him oriented toward his overall goal, and the critical success factors that must be satisfied to achieve it. The Goal Tree is read from top to bottom, verbalizing it as “In order to...I must.” Here’s what Solomon’s Goal Tree might have looked like. (Figure 1) Keep in mind that the “system” we’re viewing in these trees is a personal one—these are Solomon’s personal trees, not the kingdom of Israel’s, so they reflect his goal and necessary conditions.

With his “compass” set in the Goal Tree, Solomon then constructs a Current Reality Tree (CRT) that accurately characterizes his immediate situation. Solomon’s CRT is on the next page. (Figure 2)

The CRT is read a little differently than the Goal Tree. Start from the bottom and read each block with the words “If”, “and”, or “then” preceding them, as indicated on the diagram. A complete causal statement has at least two blocks connected by an arrow—a cause (the “if” statement) and an effect (the “then” statement).

Contributing dependent causes are the “and” statements. The critical root cause—the one that, if addressed, solves the problem—lies at the bottom of the tree. This tree provides focus to improvement efforts.

Solomon is faced with a dilemma: how to be just and resolve the dispute between the women at the same time? His next step is to construct an Evaporating Cloud (EC). This is another tree that is read “In order to...I must...” Solomon’s EC is just below the CRT. (Figure 3) The “injection” is an idea for a solution to the dilemma—but it needs a little logical testing before Solomon is ready to try to implement it.

Logical verification comes from a Future Reality Tree (FRT). It’s another “if-then” tree, like the CRT, and Solomon’s FRT demonstrates how his chosen injection from the EC leads to the effects he desires—ones that reflect the satisfaction of the Goal Tree’s necessary conditions. Solomon’s FRT is on page 5. (Figure 4)

But Solomon was no dummy. He recognized that the “law of unintended consequences” often came into play. In scrutinizing his FRT, he saw what is known as a “negative branch”—a logical future extension of the injection that leads not to desired effects, but instead creates new problems that did not exist before the injection was applied. Solomon is then able to take steps to prevent these unfavorable consequences from occurring during his pursuit of his chosen solution. For brevity, Solomon’s negative branch is omitted in this example.

With his course of action now clear before him, Solomon was ready to plan the implementation of his injections. For this, he used a Prerequisite Tree (PRT), provided on page 5 (Figure 5). Notice, again, this is an “in order to...we must...” kind of tree. Tasks in the rectangular blocks are needed either to execute the FRT injection or to overcome obstacles. But in its entirety, the PRT shows the sequence of activities that must place and the order in which they must occur. Also, if there are tasks that can be completed in parallel, rather than in sequence, this is indicated, too. Solomon’s final task is to orchestrate the step-by-step execution of the FRT and the PRT. Solomon, of course followed these steps, and the rest, as they say, is history.
Figure 2. Solomon’s Current Reality Tree

Figure 3. Solomon’s Evaporating Cloud
Figure 4. Solomon's Future Reality Tree
Conclusion

The Logical Thinking Process is a tool of unique capability. Governed by the Categories of Legitimate Reservation (introduced in the preceding installment), it provides a rigorously logical cause-and-effect picture of the reality as it exists now, and as it might exist in the future. As no other tool does, it excels at revealing the complex interdependencies among system components, and between the system and its environment. The Logical Thinking Process and these capabilities are more thoroughly explained in other sources. [4,5]

While the thinking process was originally designed to solve problems, it has much broader applicability in the domain of strategy development and deployment, as we’ll see in the next installment.

The essence of management is recognizing the need for change, then initiating, controlling and directing it, and solving the problems along the way. If it were not so, managers wouldn’t be needed—only babysitters.

—H. William Dettmer

Endnotes
3. Holy Bible, King James Version.