



## TOOLBOX

Each Toolbox presents a different systems thinking tool using relevant business examples. Readers are encouraged to practice using these tools by applying them to issues of personal interest. See page 12 for a symbol key for the diagrams.

# Dynamic Thinking: A Behavioral Context

by Barry Richmond

This is the first in a series of seven Toolbox articles that will provide more context and detail about the different systems thinking skills originally identified in the article, "The 'Thinking' in Systems Thinking" (March 1997). The skills include Dynamic Thinking, System-as-Cause Thinking, Forest Thinking, Operational Thinking, Closed-Loop Thinking, Quantitative Thinking, and Scientific Thinking.

The first thinking skill in the systems thinking paradigm is Dynamic Thinking. It comes first because you must be able to think dynamically in order to use the other

six skills. Dynamic Thinking skills enable you to trace your issue or challenge as a trajectory of performance over time. The trajectory should have a historical segment, a current state, and one or more future paths. Dynamic Thinking thus puts a current situation in the context of where you came from and where you are going.

Though Dynamic Thinking is one of the easiest of the systems thinking skills to master, it does not come naturally for most people. What seems more common is Static Thinking. For Static Thinkers, the starting point for understanding change is where they

are right now; that is, the current state. These thinkers tend to see change as "jumping" from the current state to a future goal in a rather straightforward way. The historical trajectory leading up to the current state and the unfurling of the pathway from the current state to the future condition typically don't garner much attention.

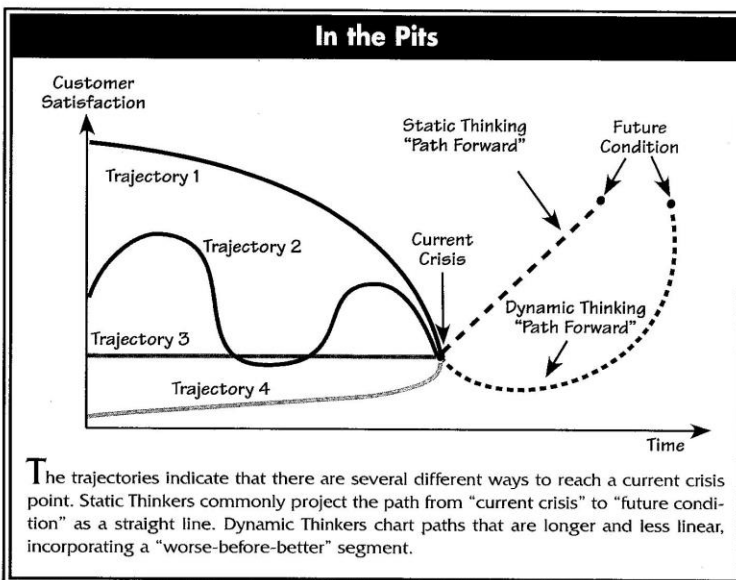
### The Benefits of Dynamic Thinking

Why embrace Dynamic Thinking? Let's look at some of the problems associated with the alternative and then see what opportunities Dynamic Thinking provides for improving performance.

In describing what ails their organizations, people tend to focus on the current crisis—profit margins are razor thin, the turnover rate is too high, customer satisfaction is in the pits. "Victory" is then defined as boosting profit margins to some higher level, lowering the turnover rate to a certain mark, or raising customer satisfaction to a particular degree. This type of focus, which is based in Static Thinking, has two basic problems.

The first problem is that the observation "customer satisfaction is in the pits" says nothing about the path it followed to get there. As the figure "In the Pits" illustrates, there are several different ways to reach a current crisis point.

If leaders and managers want to embark on a type of initiative that can successfully move a system from its current state to a desired future state, they must investigate the nature of the relationships that carried the system to where it is now (and may be holding it there!). Dynamic Thinking encourages people to use the historical trajectory for stimulating and guiding inquiry into the underlying relationships that produced it. The insights that stem from such an inquiry can help us design an initiative that successfully leverages the desired change in performance.



The second problem with Static Thinking is that the course of the “path forward” gets relatively little attention. As the illustration indicates, people commonly project the pathway from “current crisis” to “future condition” as a straight line, assuming that improvement will proceed at a steady pace in one direction. The assumption underlying such a projection is that improvement can be “engineered”—that the system is a “mechanism” and hence will passively accept change.

By contrast, those employing Dynamic Thinking skills carefully consider the shape and duration of the path forward. The assumption is “organization as organism”: The system will both adapt to and resist change. As a result, the paths forward charted by Dynamic Thinkers are typically longer and less linear than those traced by Static Thinkers. In particular, they often incorporate a “worse-before-better” segment—reflecting the idea that in order to improve a situation, you have to first invest something in the effort. Investing, in turn, usually implies enduring some sort of short-term “hit.”

### **Honing Dynamic Thinking with Reference Behavior Patterns**

The most useful tool for honing Dynamic Thinking skills is the Reference Behavior Pattern (RBP), a kind of behavior over time graph. An RBP is a graph over time of the variable that best captures the issue or challenge of concern. Developing an RBP at the outset of any performance improvement or strategy design effort is one of the best ways to focus a group’s energy, while also encouraging a Dynamic Thinking perspective. Here are examples of how to use this tool most effectively.

#### **Example 1: “World-Class” Teams.**

A group of senior managers from a hardware product group within a high-technology company was searching for

a solution to performance problems in their group. In a meeting, they came to a consensus that the answer was to develop “world-class” teams. To explore this question, the group needed to address several other questions: How “world class” were the group’s teams at that moment? How had “world classness” changed over time? By how much did they think they could improve this variable and over what time frame? All of these questions fell flat as long as the group was unable to frame the challenge as a dynamic problem.

The question that got the managers thinking dynamically was: How would you know if you had world-class teams (that is, what performance indicators would characterize such teams)? This query led the group to identify a series of operational measures—like product-development cycle times, manufacturing defect rates, and so forth—that they could chart over time to reveal a historical trajectory, assign a current state, and use to imagine future trajectories. The insights gleaned from the RBPs enabled the team to think in non-abstract terms about initiatives they could implement to improve performance. Voilà!

#### **Example 2: Declining Revenues.**

The second example involves a group at a financial services company where the number of cardholders, amount of revenues, and number of transactions were all growing. Initially, RBPs of almost all the company’s key measures sloped upward. Things got interesting, though, when the group divided annual revenues by the number of cardholders. That curve rose for a few years, but then turned downward and continued to fall for the last five years. The decline of revenues per cardholder suggested that the company was gaining customers who felt less inclined to use their cards or who had little discretionary income—both signs of potential market saturation. This example indicates something else that’s important to

remember in constructing RBPs. Often it is useful to focus on a relative rather than absolute performance indicator. “Dividing through” reveals relative changes that often stimulate insights.

These examples make it clear that the time axis plays a large role in the usefulness of RBPs. In constructing one of these graphs, therefore, think carefully about whether the issue in question is unfolding in minutes, weeks, or years. Electric utility people, for example, “live” with hour-to-hour load fluctuations and associated purchase price swings. But the long-term economic viability of a utility depends on capacity decisions that can play out with a yearly rhythm. It doesn’t make sense to cast an RBP in hours when you want to examine trends over a number of months or years! Paying close attention to the time units in an RBP is a great way to keep tactical and strategic aspects in proper perspective—and to generate vastly clearer insights about ways to improve performance.

### **A “Path Forward”**

Dynamic Thinking, by focusing attention on historical trajectories, encourages you to look at underlying systemic relationships, and provides a first clue as to the nature of these relationships. This skill also guides attention to the shape and timing of the “path forward,” stimulating you to think about the many possible problems that may befall any change effort. By using Reference Behavior Pattern graphs, you can hone your Dynamic Thinking skills to a fine point. The new perspective that results from this kind of thinking can then help you develop high-leverage improvement initiatives. 🎯

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