S T R A T E G I C N A V I G A T I O N

The Constraint Management Model

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This paper is published in the
Proceedings of the APICS International Conference
Las Vegas, Nevada (USA)
October 6-9, 2003

Strategic Navigation: The Constraint Management Model

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ABSTRACT

Most traditional and contemporary models for strategic planning are either heavily structured and time-consuming to apply, or too narrowly focused and favor the status quo. The rapidly changing political, economic and social environment of the 21st century is not likely to be forgiving of such shortcomings. This paper introduces a new model for strategy development: a synthesis of the framework of military planning, the speed and flexibility of maneuver warfare, and the logical verifiability of cause and effect. The result is "strategy on the wall"—a top-to-bottom visual picture of where the organization is going and how it will get there for everyone to see. This paper is an adapted excerpt from the author's book Strategic Navigation: A Systems Approach to Business Strategy *(ASQ Quality Press, July 2003).*

Problems with Traditional and Contemporary Methods

Mintzberg has identified 10 schools of strategic thought that have been used to guide organizations in setting and following strategic direction over the past 30 years. (Mintzberg, 1998) These schools fall into two general categories: traditional and contemporary. (Figure 1) Each of these schools exhibits some shortcomings.

TRADITIONAL	CONTEMPORARY
DESIGN - A process of conception	ENTREPRENEURIAL - A visionary process
PLANNING - A formal process	COGNITIVE - A mental process
POSITIONING - An analytical process	LEARNING - An emergent process
	POWER - A negotiation process
	CULTURAL - A collective process
	ENVIRONMENTAL - A reactive process
	CONFIGURATION - A transformation process

Revised from Mintzberg, Ahlstrand, and Lampel, *Strategy Safari* (1998)

Figure 1. Schools of Strategic Thought

Discontent with traditional approaches seems to center on four characteristics:

- *Disregard for dependencies.*
- *Inflexibility.*
- *Greater emphasis on "the plan" than on "the strategy."*
- *Difficulty in implementation.*

Criticisms of the contemporary schools seem to be centered on three characteristics:

- *Limited control by those charged with leadership of the organization.*
- *Over-emphasis on relatively narrow factors.*
- *A predilection for the status quo* (i.e., not changing).

The Military Approach to Strategic Planning

The military model for strategic planning has some decidedly desirable characteristics. Chief among these is a clear traceability between the overall national security strategy and the operational theater war plans. The strategic construct that results from the Joint Strategic Planning System (JSPS) is also very well aligned with the world geopolitical environment. And there is a coherent (if ponderous) funding process—the Planning, Programming and Budgeting System—to provide the capabilities and resources needed to support the strategy.

But the military strategic planning process in the last 50 years has not been very responsive to change. The military's emphasis, too, is still more on "the plan" (and the planning) than on "the strategy." And implementation is a lot like the mating of elephants: it requires high-level contact, it's accompanied by a lot of screaming and shouting, and it takes years to show results.

Strategic Navigation

In light of what Minztberg and others have said concerning the disconnection between "strategy" and "planning," a better concept might be *strategic navigation.*

Strategic planning is really only part of the strategic navigation of business—whether that business is commercial competition, effective government, or military engagement. The owners of the business (or system) decide what the destination will be. It's the job of senior management to decide on the best course to get there and what will be needed to do the job.

Sometimes, however, a system's owners decide to change the destination of the organization, often without any prior warning. And sometimes it isn't the owners who decide to change destinations—often circumstances beyond the control of either the owners or the managers dictate changes. Maybe a market for a certain kind of product collapses. Maybe new technology renders existing products, services or processes obsolete almost overnight. Or perhaps leaders are visionary enough to see such a paradigm shift coming and make a smaller direction change earlier. Any of these circumstances can completely invalidate a strategic plan, perhaps even an entire organizational orientation.

Defining Strategy

Before anyone can effectively assess the value of different strategy development methods, a common definition of "strategy" is required. The Constraint Management Model introduced here is based on the following definition:

> *Strategy is the means and methods required to satisfy the conditions necessary to achieving a system's ultimate goal.*

Good strategy satisfies the necessary conditions quickly, effectively, and efficiently. Faulty strategy fails in one or more of these characteristics. Creating and executing a good strategy requires:

- A clear and unequivocal understanding of the system's overall goal.
- A complete, accurate determination of the discrete conditions—the critical success factors—required to achieve the system's goal. In other words, necessary conditions are "showstoppers."
- Selecting a methodology and determining the means (resources) to realize the conditions/success factors necessary to achieve the system's goal.
- Effective leadership and everlasting focus ("eye on the ball"), self-discipline, and accountability at all levels of the system's organization.

Characteristics of a Robust Methodology

If you accept the idea that moving into the future is an exercise in strategic navigation, the next question is "By what means shall we navigate?" The traditional, contemporary, and military approaches to strategic planning all leave something to be desired. Whatever the alternative might be for your organization, it ought to satisfy four criteria:

1. Systems Approach. Organizations live or die as complete systems, not as a collection of independent parts. A strategic planning approach that fails to recognize this characteristic of organizations runs a high risk of *suboptimizing:* improving a part of the system at the expense of the whole. For the purposes of what follows, we'll use this synthesized definition of a system:

> *A set of interrelated elements encompassed by some arbitrary boundary, interacting with one another and an external environment, forming a complex but unitary whole, and working toward a common overall objective.*

This definition implies *dependencies,* both internal and external, *coordination,* and an overarching *goal* of some kind.

2. Flexible. A robust methodology for developing and deploying strategy should be simple and flexible enough to permit frequent, rapid adjustment when the environment changes—for example, after a catastrophic event such as the terrorist attacks of September 11, 2001. Ideally, it should enable decision makers to anticipate changes in the environment, or actions by competitors, and act *before* the need becomes pressing—it should facilitate a faster decision cycle. In other words, steering the organization should be more like driving a jet ski than piloting the *Exxon Valdez*.

3. Visible. Executives should have instantaneous visibility, from top to bottom, on programs, individual projects, and capital budgeting. For example, an executive hearing a capital budgeting proposal should be able to see instantaneously its relevance to the ultimate goal of the company. This is an area where the capital budgeting process is notoriously ineffective. (Mintzberg, 1994, pp. 128-158; Pyzdek, 2000, p. 240)

4. Verifiable. Within the limitations imposed by uncertainty, the executive should also be able to trace an unbroken logical connection between a proposal and attainment of the company's goal. The methodology should include a dependable set of rules to help decision makers evaluate and verify the validity of arguments for a particular course of action.

Deliberate, Emergent or a Combination?

Some writers have advocated that the strategy process must be as "deliberate as possible." (Andrews, 1971, p.24). In other words, a "controlled, conscious process of thought." (Christensen et al., 1982) This approach naturally seems to ignore the idea that strategy can emerge from situations—such as 3M Corporation's Post-It® notes—or be intuitively developed. Mintzberg stressed the idea that strategy formation was different from strategic planning. He suggested that strategy spontaneously emerges at least as often as it's deliberately planned, and, in fact, strategies are almost always partially emergent, even when a formal formulation process is used. (Mintzberg, 1994, p. 26)

The strategy development model that follows (referred to here as the *Constraint Management Model*) is intended to be a combination of the two positions: *In the absence of any intuition or emergence, follow a deliberate strategy formation process, but remain flexible enough to change course if intuition or emergence occur.* It's deliberate, in that it offers leaders a degree of control, a loosely structured process, and robust tools with which to build strategy. But it's also flexible and agile enough to accommodate learning and emerging strategy that results from unexpected results and changes in the operating environment.

The Constraint Management Model starts with a deliberate, hierarchical foundation, similar to the military model, composed of a goal, objectives (the satisfaction of necessary conditions), and the discrete tactical actions needed to fulfill them. It uses whatever intelligence resources are available to assess what the external environment will be like, from the present out to our planning horizon. Strategists then make some basic assumptions about how competition will play out during that time. Based on these assumptions, they lay out a strategy that will a) help reach the system's goal under the assumed scenario, and b) provide a flexible position from which to change to a better alternative strategy, should one emerge from the environment or spring intuitively from within. The strategy is then ready to be adjusted in real time as the environment diverges from the circumstances strategists prepared for.

A Synthesis of Theories

At its core, strategic navigation is essentially an exercise in analysis and synthesis. *Analysis* is a process of breaking down complex situations into their component parts to learn as much as possible about how they work and fit together. *Synthesis,* on the other hand, is a process of combining often disparate parts into a new type of whole. One might say that analysis is a process of "destruction," and synthesis is a process of "creation." (Hammond, pp. 155-156).

Now let's transfer this same analysis-synthesis process to the strategy arena. In this case, we'll synthesize elements of three prescriptive theories: the Department of Defense's approach to strategic planning, Boyd's theory of maneuver warfare, and Goldratt's Theory of Constraints. The result is *the Constraint Management Model for Strategy Development and Execution.*

From the military strategic planning system, we'll adopt its hierarchical character, which vertically integrates the highest goal and objectives of the whole organization with the tactics of the lowest level units—in other words, the concept of a "family of plans." Each set of day-to-day tactics will be designed to support a higher-level strategy for attaining major necessary conditions/critical success factors and, ultimately, the system's overall goal. The Joint Strategic Planning Systems and the Joint Operation Planning and Execution System contribute this hierarchical concept.

From Boyd's theory of maneuver warfare, we'll adopt the concepts of shaping the strategic environment, adapting to the fluidity of modern competition, coping with uncertainty, using time as an ally, and degrading a competitor's ability to cope. (Hammond, p.194) The instrument for doing these things is the OODA loop (observe-orient-decide-act), which is really more of a spiral than a closed loop.[*] Even though the four steps are repeated ad infinitum, with each iteration they're executed from a new set of environmental circumstances. Our objective will be to operate inside the decision cycle of others—to strive for more cycles of the OODA loop in the same time that our competitors, or the environment itself, complete fewer.

Goldratt's Theory of Constraints encompasses a comprehensive picture of systems, including assumptions about how they function and behave, their internal and external dependencies, prescriptions on how to manage them effectively, and various tools to do so.[†] The Con-

[*] Those of you familiar with *hoshin kanri* will recognize the similarity of the OODA loop to Shewhart's plan-do-check-adjust (PDCA) cycle for process management. The OODA loop is aimed at a much higher system level, and it prescribes more discrete functions (observe, orient, and decide) where the PDCA cycle says only "plan."

[†] For a more comprehensive discussion of the Theory of Constraints, its applications and tools, refer to the bibliography, specifically Caspari, Corbett, Dettmer, Goldratt, Leach, Newbold, Noreen et.al., Scheinkopf, Schragenheim, and Smith.

straint Management model borrows more heavily from the Theory of Constraints than from the other models—thus, the origin of the name.

From Goldratt's theory, we'll adopt his concept of a system constraint limiting what an organization can accomplish, and his logical Thinking Process. The Thinking Process is designed to answer three basic system management questions: *What* to change, what to change *to,* and *how* to cause the change? This Thinking Process will be the Constraint Management model's preferred tool for integrating the selected aspects of the military planning process and Boyd's theory on maneuver warfare. Figure 2 shows the relationship among the theories.

Military Planning	Boyd	Goldratt
Strategic Assessment (1)	OBSERVE (1) ORIENT (1)	(WHY change?) *Not originally part of the theory* WHAT to change?
Strategic Direction; Program Advice	DECIDE	What to change TO?
Strategic Plans	ACT	How to cause the change?
Strategic Assessment (2)	OBSERVE (2) ORIENT (2)	

Figure 2. A Synthesis of Theories

The net effect of this synthesis of theories should be the creation of an organization that is adaptive and capable of rapidity, variety, harmony, and initiative.

The Constraint Management Model

The constraint management (CM) model relies heavily on understanding cause-and-effect in organizational systems, a key foundation of the Theory of Constraints. None of the other strategic planning models place the importance on understanding cause-and-effect that the CM Model does. If there is one overriding advantage to the CM model, it's this foundation in cause-and-effect. The result of the CM model is a framework that is:

- *Optimal.* It permits users to "strap on" as much or as little detail as they choose. It's intended to be "lean and mean," but it can be as comprehensive as necessary.

- *Fast.* It can be constructed in a matter of days, versus weeks or months with the other models.

- *Flexible.* It lends itself to relatively easy, rapid change as strategic or tactical situations evolve.

- *Integrated.* It articulates all the dependencies within the system, both vertical and horizontal, so that it's clear to everyone which actions or elements are within a group's span of control and which require support from others.

- *Deployable.* Because actions required at the operating level to support the strategy are vertically "nested" and clearly displayed along with the overall strategy, deployment is relatively straightforward.

- *Visible.* Specific groups within the organization can see the overall strategy and parts pertinent to themselves at all times—especially the system objective and their contributions to it. Nobody can "hide."

- *Accountable.* It's easy to assign and monitor accountability for the actions required to fulfill the strategy.

It's important to realize at the outset that this model does *not* include every tool, technique, aid, or procedure your organization might need to fulfill its chosen strategy. There are other perfectly suitable methods that can provide such details. What this model *will* do is to tell you when such supplementary methods are needed. It's then incumbent upon management to select the right tool for the job.

Six Steps of the Constraint Management Model

The Constraint Management model (Figure 3) has seven basic process steps. The first six develop and deploy the strategy. The seventh is an evaluate-and-adjust step.

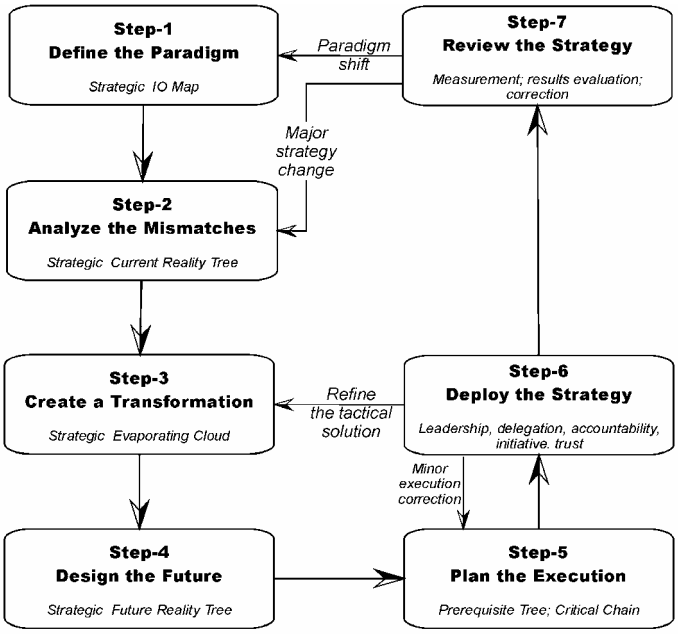

Figure 3. The Constraint Management Model

1. Define the Paradigm. The Constraint Management model begins with a determination of the system's boundaries and its goal. It then identifies the necessary conditions— critical success factors— without which the goal cannot be achieved. These constitute the expectations of the system's owners as far into the future as the organization decides its planning horizon will be. That might be two years or twenty. Once the goal and critical success factors are identified, they represent the standard against which all subsequent plans, actions and performance are measured.

2. Analyze the Mismatches. The second step in the model is to determine the nature and scope of the deviation, or "gap," between the system's current condition and performance, and that which will be required to achieve the goal and critical success factors by the expiration of the time horizon. The characteristics of this gap might be considered *undesirable effects.* They're undesirable, because their very presence indicates a mismatch between what *is* and what *should be.* The critical mismatches represent the constraints to global system success. They're considered *effects,* because the Theory of Constraints contends that measurable, tangible deviations are the ultimate result of a chain of interrelated cause-and-effect that begins with an elemental cause. This step of the Constraint Management model is designed to reveal the underlying causes of the "gap" between where the system *is now* and where it *wants to be* in the future. In other words, *what to change.*

3. Create a Transformation. The third step is the most fun—it's the part of the process where you get to start designing the future! Once you've determined the nature and scope of the gap between your current situation and your desired future, you create strategies to close that gap. The objective here is to minimize your own mismatch between reality and expectations while increasing that of your competitors.

The emphasis in transformation is on the word *create.* The ease or difficulty in doing this is directly proportional to your willingness to challenge your cherished assumptions about why

things have to be the way the are now, and to "think outside the box"—in other words, unconventionally.

Invariably, you'll run into conflicts in considering the new strategies you'll need to follow in order to make your newly-designed future unfold. You'll probably even find yourself in conflict with the other participants in the strategy design process, especially when considering possible courses of action. Part of the third step involves resolving those conflicts in a way that everybody can live with, if not eagerly endorse. The third step of the Constraint Management model tells the organization *what to change to.*

4. Design the Future. The fourth step structures the strategy in the form of a logic tree. This tree verifies that the proposed new strategies will really deliver the desired results—that the system will actually satisfy the conditions necessary for the future to unfold the way the organization wants it to do, and achieve the system's goal. It's also a "mine detection" step, raising warning flags when any of the proposed strategies can be anticipated to produce devastating problems that don't exist now.

5. Plan the Execution. The fifth step is the formulation of the technical activities needed to deploy the new strategies. Sequence and dependency of discrete actions are determined, along with accountability assignment and projected completion dates. The outputs of this activity become the basis of a Critical Chain project schedule. On-time implementation performance is controlled using buffer management.[‡] This is very much a "how to" step, with the details left to those assigned to complete the tasks. Leaders and subordinates are jointly responsible for creating ways to assess progress and success. Corrections to execution are applied as deployment proceeds.

When this part of the model is completed, the "navigation plan" for reaching the system's goal is both finished and visible to all. This fifth step of the Constraint Management model tells the organization *how make the change to happen.*

6. Deploy the Strategy. With the execution plan completed (by those responsible for its execution), the next step is to "just do it."[§] Effective strategy deployment is a product of leadership, delegation, accountability, initiative, and trust. During deployment, management must monitor that deployment and correct or adjust it as necessary to ensure success and preclude delay.

7. *Review the Strategy.* The final step has two evaluation and correction actions associated with it. First, assuming that deployment was successful, the performance of the entire system, and all the new strategy elements, must be measured and evaluated. If the organization isn't progressing satisfactorily toward its goal, the strategy should be evaluated and adjusted as needed to improve progress.

Second, even if progress is satisfactory, at a somewhat longer interval the basis of the strategy itself—the system boundary, goal, and critical success factors—should be reviewed. External environments *always* evolve. It's just a matter of time. As this happens, the organization itself may expand or contract. The competitive environment may change, either because new competitors have entered the arena or because new technologies are beginning to change the

[‡] Refer to Leach and Newbold for more details on Critical Chain Project Management and buffer management, which have documented on-time completion confidence factors in excess of 90 percent.
[§] *Just Do It* is a registered trademark of the Nike Corporation.

state-of-the-art. As an analogy, steps 1 through 6 represent a system view "from ground level." Correcting deviations in the deployment might be considered a "10,000-foot view." Step 7 would be a "40,000-foot view." And the long-term strategy review is more like the view from "low-earth orbit."

Now that the Constraint Management Model is defined, how do we convert it into an actual strategy? The logical Thinking Process created by Goldratt provides the tools to do that.**

A Logical Strategy Development Process

The Theory of Constraints provides a graphical tool set—the Thinking Process— to support the first five steps in the Constraint Management Model. Those first five steps represent a cycle of analysis-synthesis on the organization and its operating environment. The outcome of applying these logical tools is a flexible strategy, concisely represented in a single graphic picture that enables everyone in the organization to see his or her part in the process and how it relates to others.

This graphical strategy permits senior executives to see and understand the causal dependencies between the ultimate company objectives and the day-to-day activities that must succeed in order to achieve them. The logic trees of the Constraint Management Model allow the CEO, at any time, to "drill down" to the working level and determine the status of progress in executing the strategy. Noise is separated from signal, so that management can focus on the issue—the system constraint—that limits the organization's performance at the moment. Instead of having to watch a wide range of company indicators, the senior executive knows exactly what needs attention and when that attention should shift to something else.

The Logical Tools of the Constraint Management Model

Figure 4 shows the relationship of the Thinking Process tools to the steps of the Constraint Management model.

Strategic Intermediate Objectives Map. The first step in the logical process—the one that satisfies the need to establish the system boundary, its goal, and critical success factors—is the Strategic Intermediate Objectives (S-IO) Map. It's the starting point for determining where the organization is going and what major milestones must be reached on the journey.

Strategic Current Reality Tree. The Strategic Current

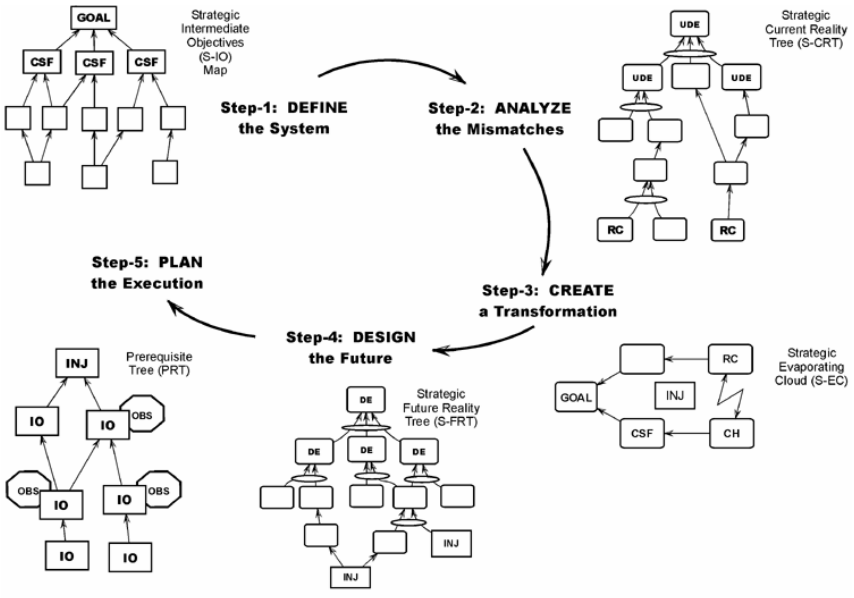

Figure 4. CM Model and Thinking Process Logical Tools

** Goldratt created the logical Thinking Process (Dettmer, 1997, 1998; Scheinkopf, 1999) to facilitate the analysis of complex systems for the purpose of identifying constraints to improved performance. That same logical analysis rigor can be translated to the development of strategy, too.

Reality Tree (S-CRT) identifies the root causes behind the mismatch between where the organization is now and where it wants to be at the end of the planning horizon (as expressed in the S-IO Map). The Undesirable Effects—statements of variance between current and desired performance—are only visible indications of much deeper, underlying root causes. The interlocking structure of cause-and-effect (a domino chain, if you will) is revealed, connecting a few root causes with serious Undesirable Effects. One of these root causes is the system's ultimate constraint.

Strategic "Evaporating Clouds." Changing the root causes of the gap identified in the S-CRT is often a challenge because resistance, either internal or external, frequently stagnates the change effort. Step 3 of the Constraint Management model calls for rooting out and resolving the conflicts behind such resistance, which in many cases is not obvious. The Strategic Evaporating Cloud (S-EC) is most effective at doing this.

Strategic Future Reality Tree. Step 4 in the Constraint Management model calls for constructing the strategy, verifying its effectiveness, and "clearing the future path of mines." The tool for this is the Strategic Future Reality Tree (S-FRT), a comprehensive cause-and-effect diagram that represents the entire strategy in a single graphical map. In doing so, it provides unprecedented visibility for everyone on where the organization is going and what their individual roles are in the journey. The S-FRT also affords the organization the opportunity to anticipate where new initiatives may create more (or worse) problems than they solve, and head those problems off.

Prerequisite Trees and Critical Chain Project Plan. Step 5 in the Constraint Management model is planning the execution. There are two tools available to support execution. The first is the Prerequisite Tree (PRT). This tool is designed to identify the significant tasks and milestones—called Intermediate Objectives—that must be accomplished in order to say, unequivocally, that an S-FRT "injection"[††] has been completed. Some of these component tasks have significant obstacles associated with them that must be overcome. Others don't. All of them are necessary for the completion of a major S-FRT injection, and there is invariably a specified sequence in which they must be done.

Each of the Intermediate Objectives can be treated as a discrete task in a project, the deliverable of which is a completed Injection. To ensure that the Prerequisite Tree is completed on time, and in the shortest possible time, the second tool used in strategy deployment is *Critical Chain Project Management* (Goldratt, 1997; Newbold, 1998; Leach, 2000). Critical Chain, the first truly innovative advance in project planning and management since PERT/CPM, provides a means of ensuring the shortest possible promised completion dates for the execution of the strategy depicted in the S-FRT.

Maneuver Warfare, the OODA Loop, and the Constraint Management Model

There is an important relationship between the OODA loop and the Constraint Management Model. You could consider it a "bridge" between strategy development, or revision, and tactical deployment.

The CM Model is a prescription for creating strategy in the first place and updating it as the need occurs. But it doesn't really address the self-discipline required—and the reasons self-discipline is needed—to go through the feedback part of the process once the original strategy is deployed. In fact, more often than not, in the execution of cyclic prescriptive loops complacency

[††] Goldratt coined the term injection to describe a major action or policy change required to initiate change.

sets in, sometimes before the first cycle is even completed.‡‡ Boyd's OODA Loop provides the concrete theoretical basis for motivating people and organizations to continually evaluate results and adjust inputs quickly.

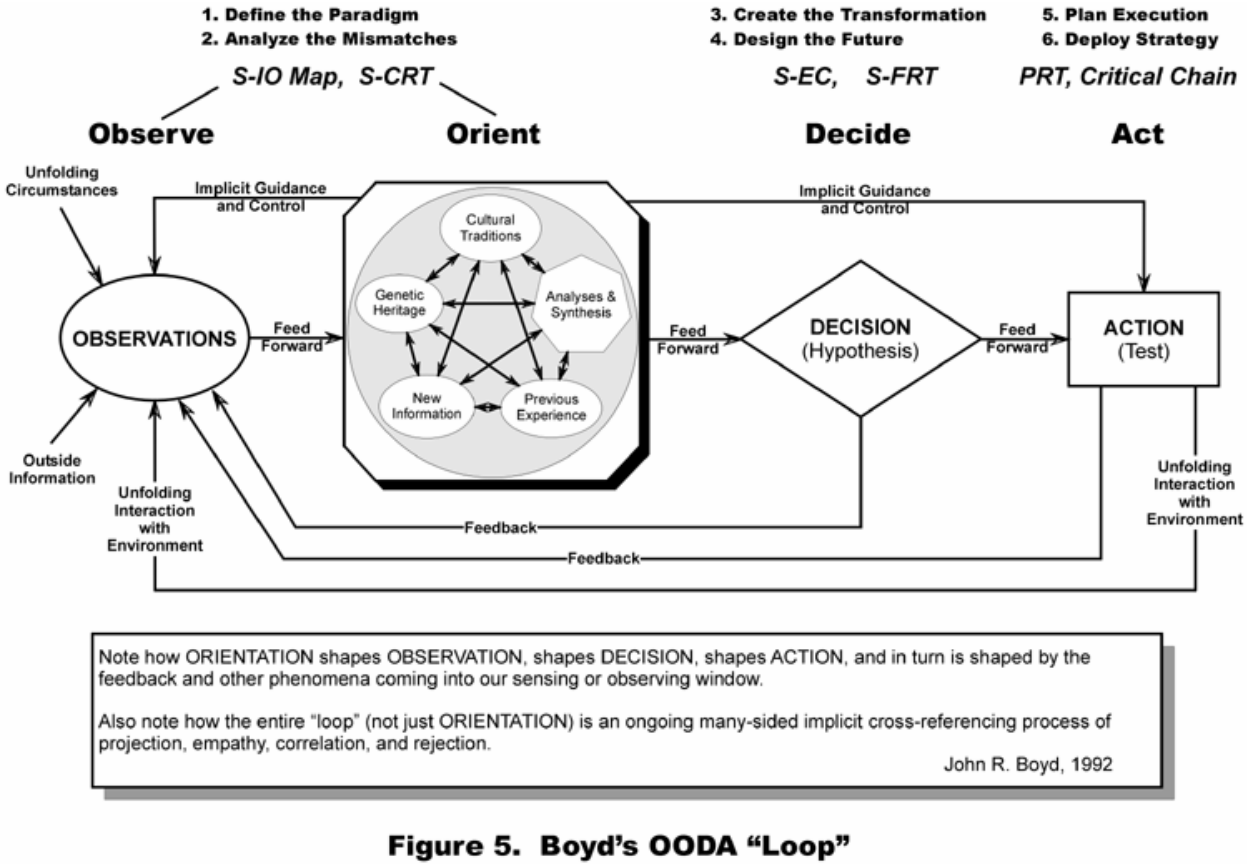

Figure 5. Boyd's OODA "Loop"

The CM Model describes a kind of OODA loop, though it's not as elegantly simple as Boyd's four-part creation. Refer to Figure 5. The first two steps of the CM Model, *Define the Paradigm* and *Analyzing the Mismatches,* are essentially a combination of Boyd's *observe* and *orient* steps. The third and fourth steps of the CM Model, *Creating the Transformation* and *Designing the Future,* correspond to Boyd's *decide* step. The fifth and sixth steps of the CM Model, *Plan the Execution* and *Deploy the Strategy,* are equivalent to Boyd's *act* step. Prerequisite Trees and Critical Chain project plans contribute to complete, efficient, effective execution of the strategy. Step 7 of the CM Model, *Review the Strategy,* is comparable to Boyd's feedback loops, in which the effects of our actions on the environment are observed and a new orientation (a second-generation Strategic CRT) is articulated.

Cycle Time

Naturally, the decision cycle time for this process at the organizational strategy level is nowhere near as rapid as it is for a fighter pilot in aerial combat. As we've seen, strategic plans can take a long time to develop—months, perhaps as much as a year— using traditional models. The U.S. Defense Department's operation plans take even longer. Yet the Constraint Management Model, executed with the urgency of the OODA Loop, can compress that time substantially, creating a winning strategy ready for execution in a matter of weeks.

‡‡ Consider the Shewhart Cycle. Most practitioners go through the Plan-Do-Check-Adjust process at least once, but how many actually make them a continuous, repetitive practice?

Competitive and Non-Competitive Environments

The CM Model for developing and executing strategy applies to all types of organizations—commercial for-profit, not-for-profit, and government agencies. Since the CM model draws so heavily on concepts from the military model—the military planning systems and maneuver warfare—it might be tempting to assume that it applies only to competitive situations, which are most often commercial. Certainly, maneuver warfare and Boyd's OODA loop concept originated in battlefields, which represent the ultimate in competition. But most people have heard the saying, "Adapt or die." This statement implies a completely different kind of competition: *a struggle with the environment in which one exists.*

Even organizations without direct competitors operate in constantly evolving environments that demand regular change to avoid stagnation (and possible irrelevance). So even if your organization has no head-to-head competitors—government agencies and not-for-profit groups, for example—you're still competing with an ever-changing, often insensate environment for continued survival. In such situations, the Constraint Management Model is still eminently useful.

Summary

Where does the Constraint Management Model fit in the scheme of the schools of strategic thought? It embodies characteristics of almost all the schools, but it probably favors one from the traditional category (the *design* school) and one from the contemporary category (the *learning* school). The military model contributes the structure preferred by *design* school fans, and Boyd's OODA loop contributes the flexibility to accommodate external chaos (*environmental* school), the historical social experience of the *cultural* school, and the continual refinement of the *learning* school.

Shewhart (Hoshin)	Military Planning	Boyd	Goldratt	CM Model	CM Tools
P	Strategic Assessment (1)	OBSERVE (1)	(WHY change?) *Not originally part of the theory*	**Step-1: Define the Paradigm** (Where do we WANT to be?)	Strategic Intermediate Objectives (S-IO) Map
L		ORIENT (1)	WHAT to change?	**Step-2: Analyze the Mismatches** (Where ARE we?)	Strategic Current Reality Tree (S-CRT)
A	Strategic Direction; Program Advice	DECIDE	What to change TO?	**Step-3: Create the Transformation** (What direction should we take?)	Strategic Evaporating Cloud (S-EC)
N				**Step-4: Design the Future** (What does the solution look like?)	Strategic Future Reality Tree (S-FRT)
			How to cause the change?	**Step-5: Plan the Execution** (How to change course?)	Prerequisite Tree (PRT); Critical Chain Project Manangement (CCPM)
DO	Strategic Plans	ACT		**Step-6: Deploy the Strategy** (Start on the journey)	Leadership, delegation, accountability, initiative, trust
CHECK; ADJUST	Strategic Assessment (2)	OBSERVE (2) ORIENT (2)		**Step-7: Review the Strategy** (Are we getting closer to where we want to be?)	Measurement; results evaluation; correction

Figure 6. Relationship of the Synthesized Theories

In summary, the Constraint Management Model is a synthesis of several other theories and processes, which are equivalent to a foundation upon which a house is built. It may not be a perfect balance of all the strategic schools of thought, but it's flexible enough to be used both for long-range strategy development and deployment and for short-term crisis management. And

the process is virtually the same, which is comforting to planners. Only the focus (strategic versus operational) is different.

The CM Model draws its strength from valid theory (Theory of Constraints and Boyd's OODA Loop), and proven practices (military strategic planning). It provides flexible tools that can instill a "big picture" vision for everyone within the organization. Yet these tools are easily mastered and they support the rapid observe-orient-decide-act cycle times required to "get inside the adversary's decision cycle."

Figure 6 shows in more detail the relationship of the Constraint Management model with each of the theories and processes from which it is synthesized.

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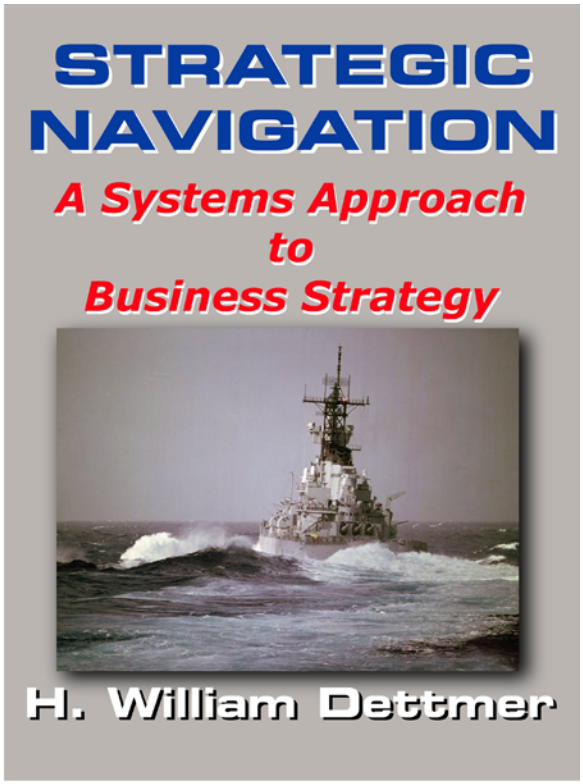
Winning the Business War



Military strategy originated with the Chinese general Sun Tzu over 2,300 years ago. It has been refined and perfected over the last two hundred years by theoreticians and practitioners such as Von Clausewitz, Liddell Hart, Guderian, and Boyd. The ultimate result was forcefully demonstrated in Operation *Desert Storm* (1991).

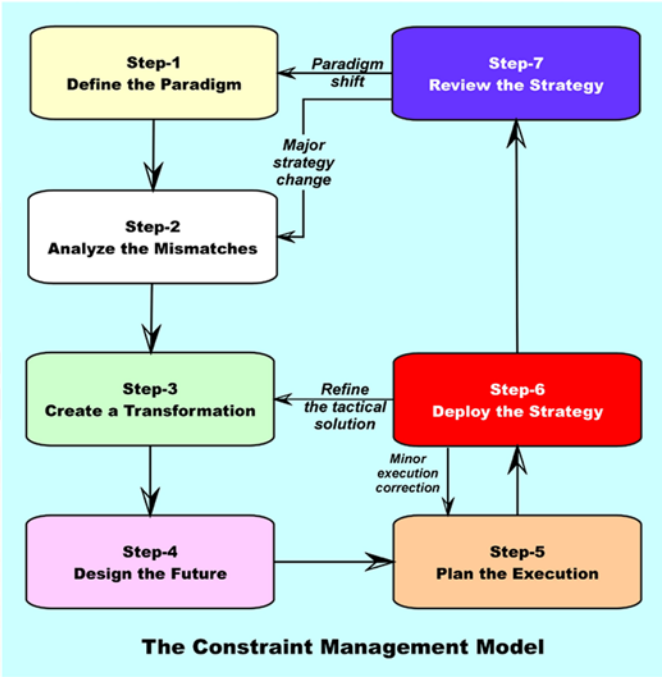
Systems thinking has been around for several decades, though it's more often talked about than practiced. One of the premier tools for the effective practice of systems thinking is the logical Thinking Process created in the early 1990s by E.M. Goldratt.

In ***Strategic Navigation: A Systems Approach to Business Strategy***, Bill Dettmer merges the state-of-the-art in military strategic planning with the Thinking Process to form the Constraint Management Model for strategy development and deployment.

The Constraint Management model (pictured below) is a closed-loop process that facilitates the rapid development of strategy, deployment with military precision, and the quick adjustment or redesign of strategy as the operating environment changes.

The Constraint Management Model is designed to put the organization's strategy "on the wall" for everyone to see and understand their contributions to success. It's not intended to create thick, "doorstop"-sized plans that nobody ever reads, much less follows.

Strategic Navigation: A Systems Approach to Business Strategy explains and demonstrates by example how the logic trees of the Thinking Process are used to establish goals and objectives, evaluate the operating environment, resolve strategic conflicts, create and "bulletproof" a strategy, and determine strategy execution tasks. The table of contents follows on the next page.



The Constraint Management Model

TABLE OF CONTENTS