Lean Enterprise Conference Fall 2005

Building Employee Involvement: Learning from Toyota and the US Marine Corps

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Some Companies Seem to Succeed No Matter What Happens

- Toyota
  - Toyota Production System
  - Toyota Development System
- Southwest Airlines
- Zara
- Wal-Mart

Despite complexity, these companies survive on their own terms, often at their competitor's peril.

Many Study the "How" But Not the "Why" of These Companies' Success

"So why has it been so difficult to decode the Toyota Production System? The answer, we believe, is that observers confuse the tools and practices they see on their plant visits with the system itself."

Steven Spear and H. Kent Bowen

"Decoding the DNA of the Toyota Production System"

Harvard Business Review, September/October 1999

Time-Based Strategies …and Trust

"All we are doing is looking at the time line from the moment the customer gives us an order to the point when we collect the cash. And we are reducing that time line by removing the non-value-added wastes." **Taiichi Ohno (1988)**

"The issue of human nature is the most basic problem … The most important factor is maintaining a relationship of trust between labor and management." **Shigeo Shingo**

Two necessary elements:

1. Choose to use time as a market shaping approach
2. Have the appropriate organizational culture
   - Capable of using time as a strategy, adaptive and agile
   - Decision making at the lowest levels, individual initiative, *trust*

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How Do You Learn?

- Toyota's methods are (mostly) evolutionary.
  - You learn how to be a Toyota employee by being a Toyota employee.
- So how do you learn how to create and operate an organization based on time-based strategies?

From the United States Marine Corps

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Parallels in the Marines

Marine Corps Doctrinal Procedure-1, *Warfighting*.

- "Inherent in maneuver warfare is the **need for *speed*** to seize the initiative, dictate the terms of action, and keep the enemy off balance, thereby increasing his friction. We seek to **establish a pace that the enemy cannot maintain** so that with each action his reactions are increasingly late—until eventually his is overcome by results."
  MCDP-1, page 74

- "It is essential that our philosophy of command support the way we fight. First and foremost, *in order to generate the tempo of operations we desire and to best cope with the uncertainty, disorder, and fluidity of combat,* ***command and control must be decentralized****…* We develop this ability through familiarity and **trust**, which is based on a shared philosophy and shared experience."
  MCDP-1, pages 77-78

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How Did the Marines Learn?

- Col. John Boyd, USAF
  - Probably the world's greatest fighter pilot, wrote the USAF fighter tactics text, "Aerial Attack Study."
  - Fundamentally responsible for F-15 and F-16 concepts
  - Strategic thinker who profoundly impacted the US military (Gulf War, US Army, US Marine Corps).

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Boyd's Early Analysis

F-86 & Mig-15: Primary combatants in the Korean War

- Mig was better on paper, but F-86 had 10:1 kill ratio
- F-86 had 2 small, but significant advantages which gave it the edge in combat (bubble canopy, hydraulic flight controls)

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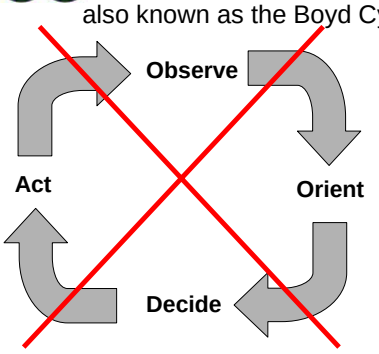
The O-O-D-A Loop, also known as the Boyd Cycle



Simple
Explicit
Linear
Iterative

Almost exactly nothing quite like people really act

With apologies to Douglas Adams

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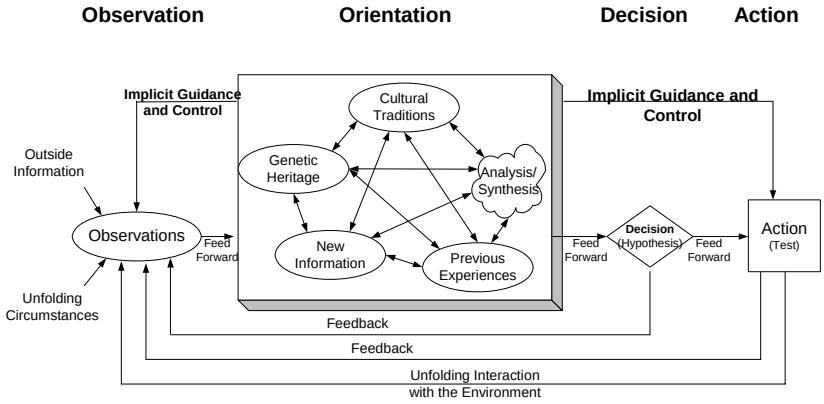
The Evolved O-O-D-A "Loop"



Within the Orientation box are:

Cultural Traditions, Analysis/Synthesis, Previous Experiences, New information and Genetic Heritage.

J. R. Boyd, *"The Essence of Winning and Losing"* 1995.

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Zen and Implicit Guidance

The samurai practices night and day until *"sword becomes no-sword, intention becomes no-intention."*

"Practice is the only way that you will ever come to understand what the Way of the warrior is about… Words can only bring you to the foot of the path…"

Miyamoto Musashi "*The Book of Five Rings*"

"Fidelity in Revenge" portrait of Musashi
Painted by Kuniyoshi, circa 1848

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Necessary Conditions for Organizational Success

Boyd studied successful organizations and derived four necessary basic principles

- *Intuitive Competence*—Skill, intuitive feel for the work, from learning and practice
- *Focus*—a concept giving attention and direction to all levels of the organization
- *Trust*—unity, cohesion, teamwork
- *Mission Contract*—Mutually agreed upon responsibilities, a contract between leader and subordinate

Note that RAA alone is insufficient without all four!

RAA= Responsibility, Authority, Accountability

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Comparing Boyd's Principles to Those of the Toyota Development System

- Intuitive Competence
- Focus
- Mission Contracts
- Trust

- Expert engineering workforce / Teams of responsible experts
- Focus on knowledge, operational value stream to the customer
- Lead through entrepreneurial systems design
- Aggressively evaluate multiple alternatives/set based concurrent engineering
- Responsibility based planning and control with accountability

Toyota Development System (TDS) references: Kennedy, Ward, Morgan, Liker

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Trust Makes it Work

"Both leadership and monitoring are valueless without trust. The 'contracts'…of intent and mission express that trust…[trust by the leader] that his subordinates will understand and carry out his desires and trust by the subordinates that they will be supported when exercising their initiative."

William Lind, *"Maneuver Warfare Handbook"*

A system based on skill, focus, and mutual trust at all levels of the organization does not require an extensive command and control network to "push" people to perform or to do the right things or to adapt rapidly to changing circumstances; internal motivation "pulls" them to act in alignment with the shared intent.

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Trust and Speed

"You gotta build trust. You build trust, you got speed. And you need speed in a crisis."

Lt. General Russel Honore, Commander,
Joint Task Force Katrina
Seattle Times 9/6/05

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Principles of the Theory of Constraints

Theory of Constraints is a system management philosophy. A system's performance is limited by only a few things. Improvement at these constraints improves the system.

- 5 Focusing Steps -- the simplest statement of the principles for improving *system* performance.
- Thinking Process -- a rigorous analysis method of necessity and sufficiency based logic tools
- Generic Applications -- solutions for production planning (DBR), project management (CCPM) and supply chain/distribution (Replenishment).
  - For many people TOC = "The Goal" but that only covers DBR.

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The 5 Focusing Steps of TOC:

0) Identify the **System** and its goal.
1) **Identify** the system's constraint
2) Decide how to **Exploit** the system's constraint (get the most out of it you can)
3) **Subordinate** everything else to the above decision
4) **Elevate** the system's constraint (get more of it)
5) If the constraint is broken, go back and identify the new constraint. Do not let inertia (existing policies) become the constraint.

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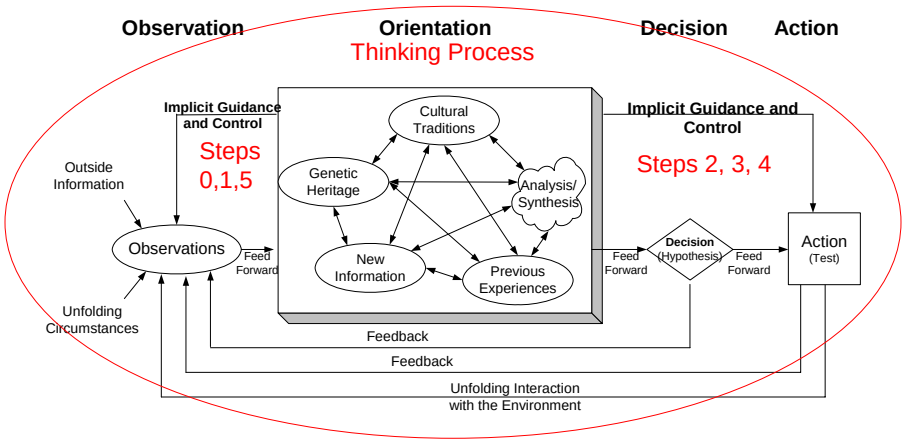
TOC in the OODA Loop



Steps 0, 1, 5: Ensure our Orientation and Observations are aligned.

Steps 2, 3,4: Make the right decisions within our system.

Use the full Thinking Process only if blocked implementing any step.

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Maneuver Conflict from a TOC Perspective

- The system constraint is the organization's *Focus*. All decisions and metrics are based on their impact on the constraint.
- As the system performance increases everyone benefits and *Trust* increases. Everyone is in it together.
- As people cycle faster through actions and activities that add value and make improvements, they better understand what works and what doesn't, their *Intuitive Competence* increases.
- As understanding, skill, and trust increase people are more able to exercise innovation and creativity on things that matter most. This decreases the need for detailed assignments and micro-managing and increases working relationships more based on *Mission Contracts*.

This creates a "virtuous cycle" --- the better things get, the better they get.

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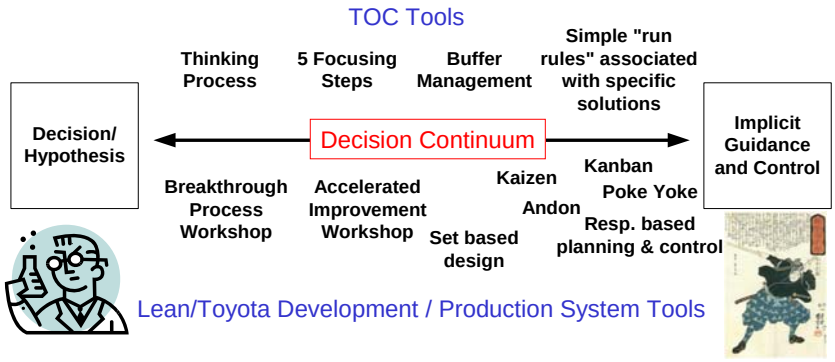
TOC and Lean Guidance and the OODA Cycle

- Note that many Toyota Development System/Toyota Production System artifacts are closer to the Implicit Guidance and Control end of the spectrum. Without understanding the system and context behind these tools, effective implementation is difficult.



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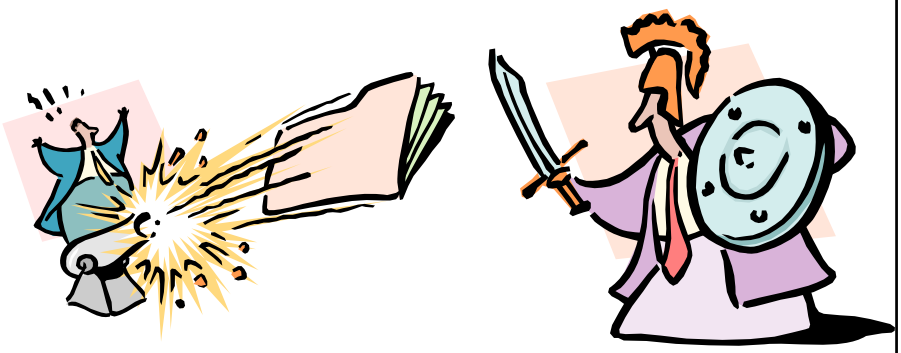
Over at *Business As Usual, Inc.*

From *"Managerial Breakthrough"* by Joseph Juran

"Lacking victories over their competitors, and unable to defend themselves from their bosses, they lash out at each other, making unity of purpose even harder to achieve."



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A Competitor: Run by Maneuver Conflict Principles

"This is business by people who have studied to learn the art of working together. It is business by people who share a code of honor that binds them in mutual trust. It is business whose purpose is as much to know its market—the attitudes and desires of the people who might buy its product or its service—as it is to provide that product or service with integrity. It is business by people who have formed an effective team that can act and that will act swiftly and decisively to seize an opportunity, even when the opportunity arises unexpectedly.

The team is not set in its ways, except in its way of doing business, which is trust of one another within the company, integrity in its product and service, appreciation of the market and potential market, and the ability to act quickly. The tempo with which the team acts, adjusts, corrects, seeks opportunity, and acts upon it, is greater than the speed of which its competitors are capable. It is greater and more powerful than the market can resist, and in that way, it wins its customers."

From *"Thinking Like Marines"* by Col. Mike Wyly USMC (ret)

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Summary

- The faster the pace of the market and/or the competition the greater the value of time-based strategies
- It's not just *doing things* faster that matters, it's *doing the **right** things* faster.
- Some companies have this ability, most don't.
- Maneuver Conflict is a proven, teachable and learnable time-based approach that applies to business.
- The Theory of Constraints/Lean is a means by which an organization can operationalize maneuver conflict and time-based strategies quickly by highlighting the "right things" and then speeding up their implementation.

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