Using the OODA Loop
(Observe, Orient, Decide, Act)
for Measurement & Analysis
or
“Measure Like a Fighter Pilot”

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Purpose

• Introduce the OODA Loop as an Enabler for Implementing Measurement and Analysis (MA)

• Scope
  – Project Level Measurement
  – Measurement Analyst/Practitioner perspective
  – Implementation Strategy
  – Lessons Learned
Agenda

John Boyd’s OODA Loop

Rationale for its Use in MA

The OODA Loop for MA

Summation
The Legacy of Colonel John Boyd (USAF Ret)

- “40-Second Boyd” (Korean War)
- “Mad Major” (F-15, F-16)
- “Genghis John”

The OODA Loop & Maneuver Warfare
- U.S. Marine Corps
- Both Gulf Wars
Boyd’s OODA Loop

- Relates to all human behavior
- Goal: Successful interaction with other loops
- Get inside the opposing OODA Loop
  - Destructive: Air Combat, Warfare
  - Constructive: Engineering Process
Shallow Measurement Loops Fail

e.g. Project Monitoring & Control

- Marginal Project involvement
- Little added value for the project
Deep Measurement Loops “Engage” and Succeed

- Project depends upon measures
- Measures Drive Corrective Action
“Engage” by Getting Inside the Target OODA Loop

- Shifts focus to Target Process
- Provides an agile Framework for Action
- Drives Process Change and Corrective Action
Agenda

- John Boyd’s OODA Loop
- Rationale for its Use in MA
- The OODA Loop for MA
- Summation
Observe

- Orient
- Decide
- Act

Target Process

- Tempo
- Harmony
- Ground Truth

- Generate Measures
  - Establish Tempo
  - Create Harmony with the Staff
  - Establish Ground Truth

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Observe (Tempo)

- Tempo: “Measurement Frequency & Timeliness”
- Very challenging
- Tools are critical
Observe (Harmony)

- Sell measurement
- Establish trust and a common goal
- Avoid friction
Observe (Ground Truth)

Measures:

- Credible, Accessible, Flexible
- Finger-tip Feel
- Primary Reference
Observe (Example Defect Chart)

Stakeholder defines the Integration Defect “bin” (what baseline, who’s responsible, what’s happening, who’s defect, where’s it going, what priority)

Credible, Accessible, Flexible and Finger-tip Feel
Orient to Measures and Environment

- Orient the Stakeholders
- Gain Leverage using Perspectives
Orient (Stakeholders)

- Understand the Stakeholder Paradigm:
  - May pull or push-back
  - May need adjustment

- Brief with Charts that support Decision-Making
Orient (Example Code Size Charts)

Summary Level

Goal: Complete, Consistent, Insightful, No Frills
Orient (Leverage)

- Perspectives:
  - Cost
  - Customer
  - Competition
  - Responsibility

- Tools are critical
Decide & Act

Stakeholders Decide and Act

- Avoid delayed decisions
- Proactively support decision/action
Measure Like a Fighter Pilot

1. Engage the process
2. Drive corrective action
3. Enjoy the ride!
Back-Up Material
References for John Boyd

Articles


Books

Boyd: the Fighter Pilot Who Changed the Art of War, Robert Coram, 2003 (suggested)