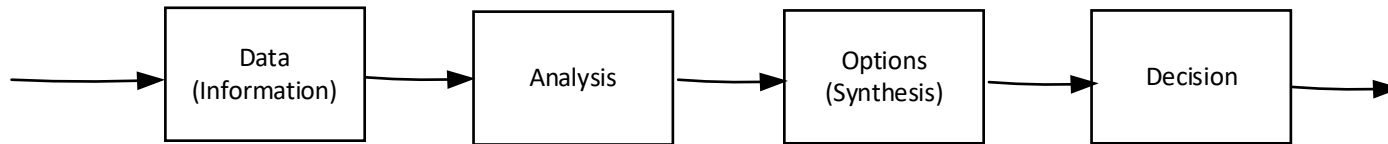


Fallacies of Data Driven Decision Making (DDDM)

John Cvetko

CISSP, ZCEA, PMP

What is Data Driven Decision Making?



- Pretty Simple Right?
- So Why Are So Many Bad Decisions?

When You Do the Forensics

- Bad, false or incomplete data
 - Poor, biased or non-existent analysis
 - Options for consideration based on artificial constraints
 - Risks and dependencies not clear or considered
 - Subsequent decision making (governance)
-
- What do all these issue have in common?



Dr. Jeff Sutherland

Jeff Sutherland



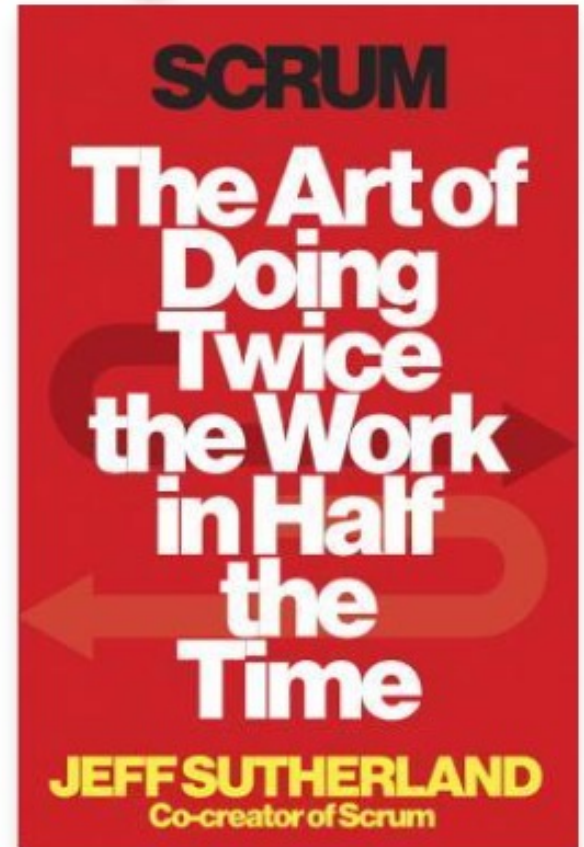
Born June 20, 1941 (age 81)

Alma mater [United States Military Academy](#) (B.S.)
[Stanford University](#) (M.S.)
[University of Colorado School of Medicine](#) (PhD)

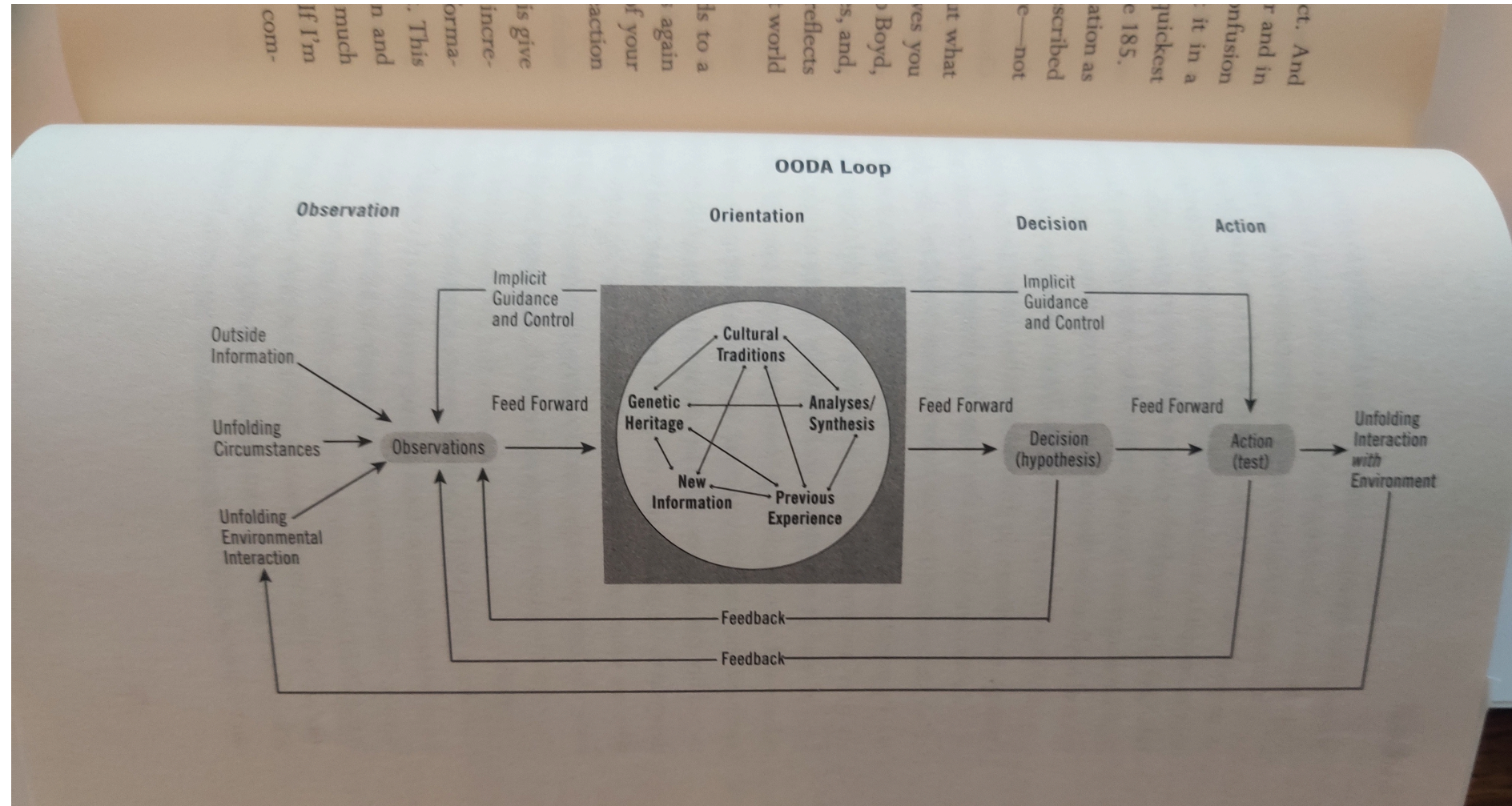
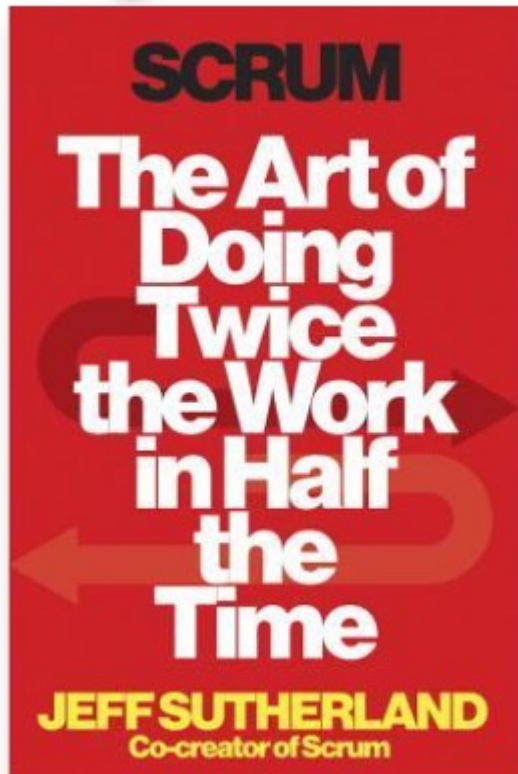
Occupation [Project manager](#)

Known for [Creating *Scrum* method](#)

Jeff is a Distinguished Graduate of the [United States Military Academy](#), a Top Gun of his USAF [RF-4C](#) Aircraft Commander class and flew 100 missions over [North Vietnam](#). Jeff has advanced degrees from Stanford University and PhD from University of Colorado School of Medicine. He is currently a chief executive officer of Scrum, Inc in Boston, Massachusetts and Senior Advisor to OpenView Venture Partners [\[1\]](#).

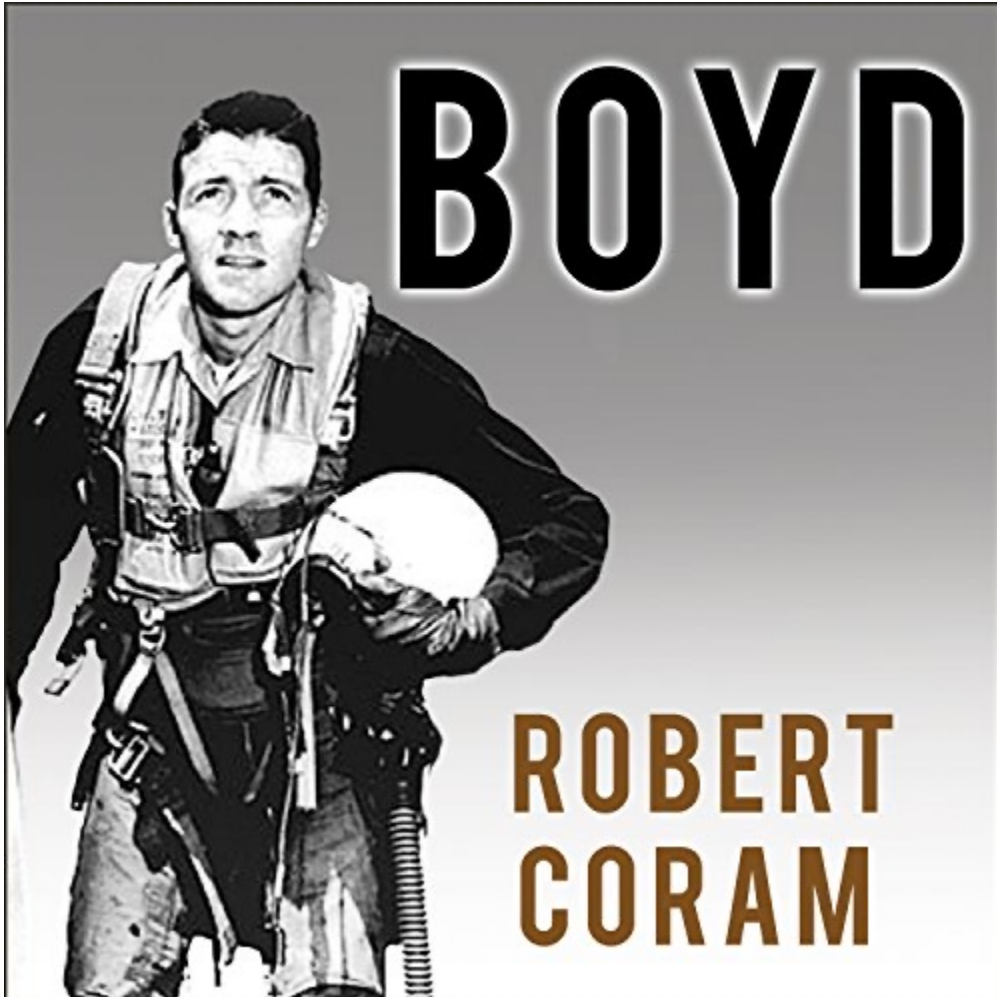


OODA Loop



Colonel John Boyd

– A.K.A., “40 Second Boyd”, “Genghis John”, “The Mad Major”, etc.



- Accomplishments
 - F-86 Sabre Pilot in Korea
 - OODA Loop
 - Flight School Instructor
 - Aerial Attack Study
 - Energy–maneuverability theory
 - Organic Design for Command and Control
 - “Fighter Mafia”
 - Commander of a CIA Base
 - Maneuver warfare
 - Planned Gulf War

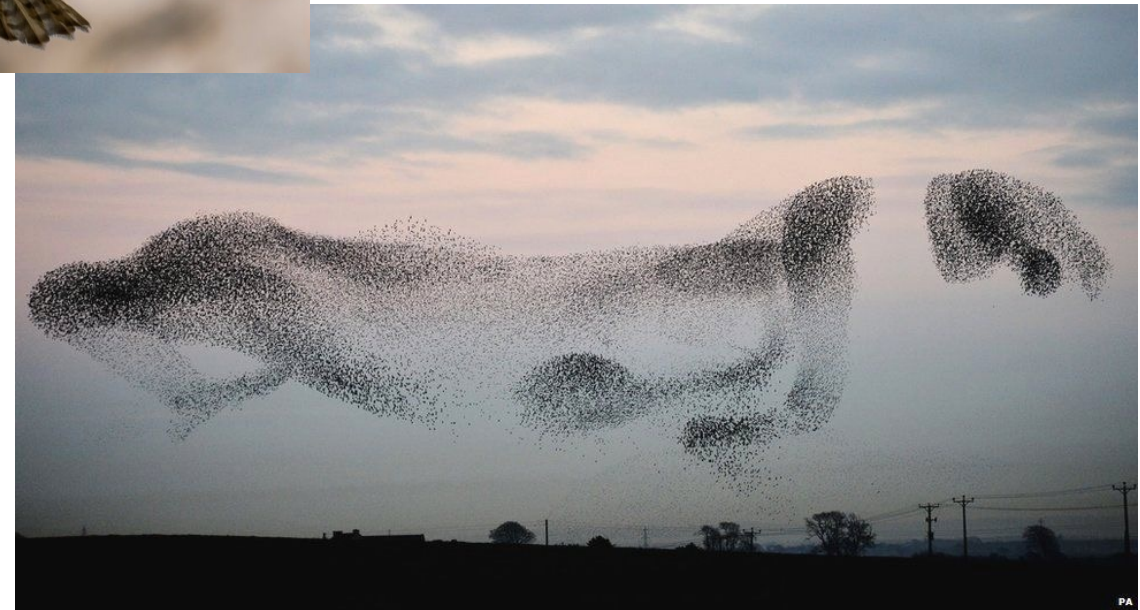
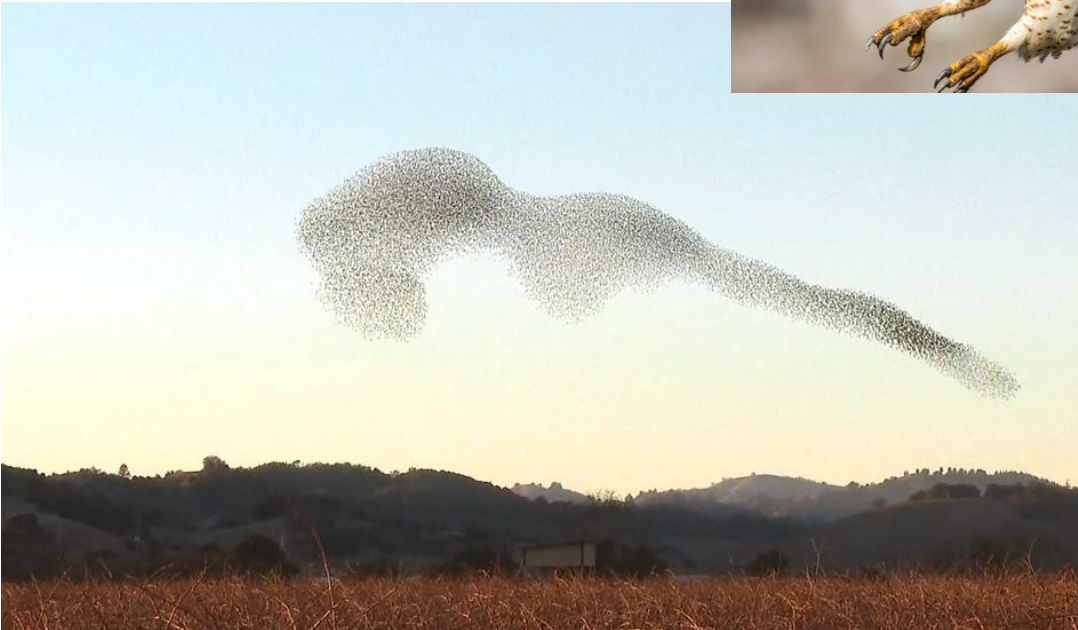
Observer Orient Decide Act Cycle (OODA)

- OODA Decision Cycle (Mind Model)
 - Stemmed from the need to rapidly adapt thinking...the mind over technology
 - The pilot who could process information the fastest will outmaneuver his opponent.
- Designed to create chaos in the mind of the opponent
 - Either an individual or an organization

Agile Mindset?

- Why did Sutherland put such an oppositional model in the book?
- Boyd was a pragmatic
 - He had to defend against his own military strategies...and at scale
- The defense against the OODA Loop was to design an organization with the following characteristics:
 - Rapid processing of information
 - Leverage the individual – diversity, genetic culture, creativity
 - Maximize adaptability and innovation
 - A culture of trust to foster decentralization of management through a shared mindset

Organizational Focus, Speed and Agility



The Goals Align

- Boyd's Goal
 - “Minimize time and maximize effectiveness”
- Sutherland's Goal
 - “The Art of Doing Twice the Work in Half the Time”

OODA Overview

- **Observe**

- The Observation stage is the point at which the information gathered by an individual is their perceived reality. The Outside Information feeding the stage represents the information being presented to the individual in time.

- **Orient**

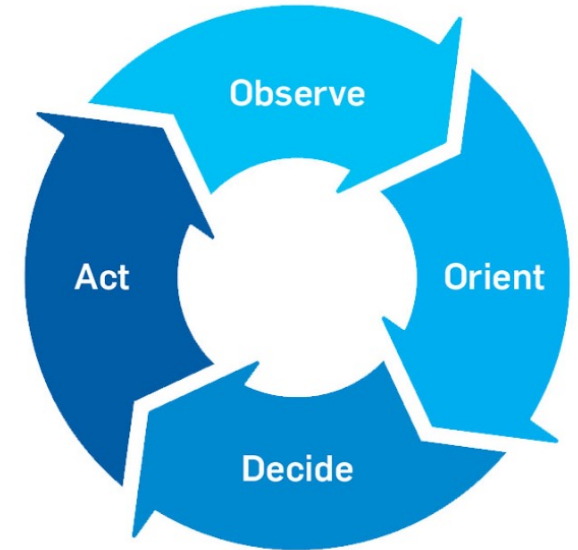
- The orientation phase involves reflecting on what has been found during observations and considering what should be done next.

- **Decide**

- The decision phase makes suggestions towards an action or response plan, taking into consideration all of the potential outcomes.

- **Act**

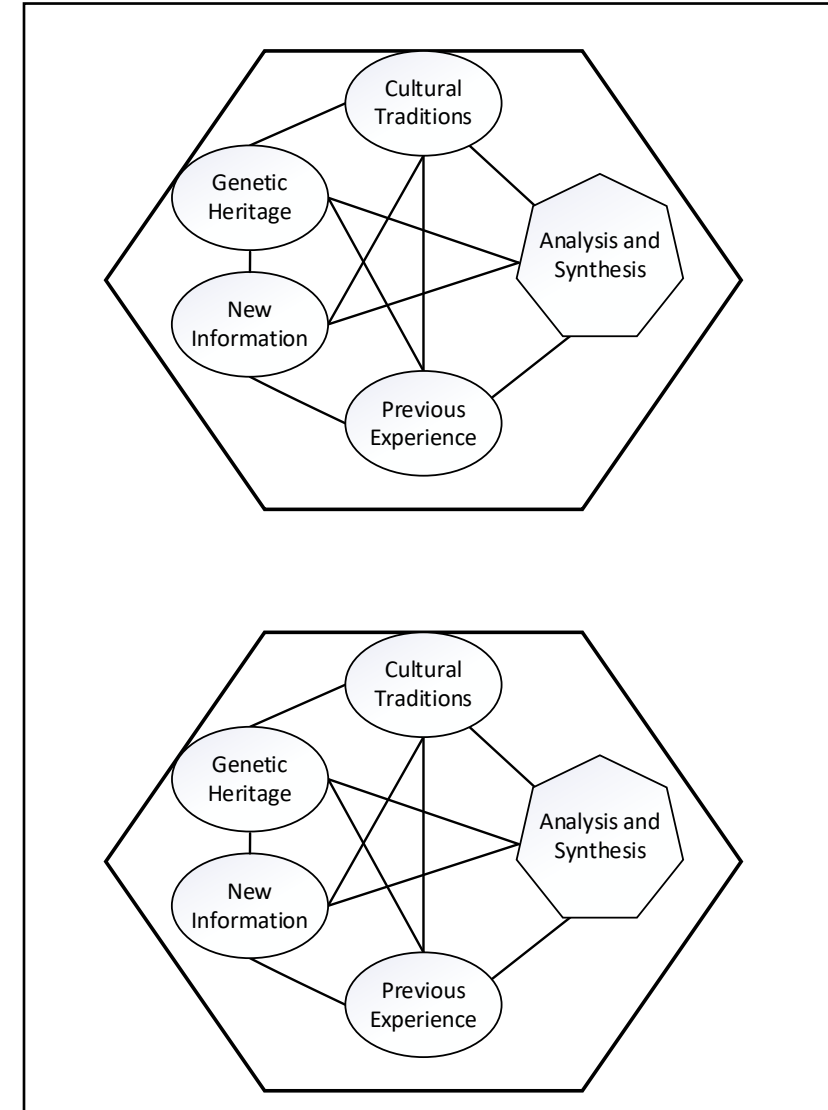
- Action pertains to carrying out the decision and related changes that need to be made in response to the decision. This step may also include any testing that is required before officially carrying out an action.



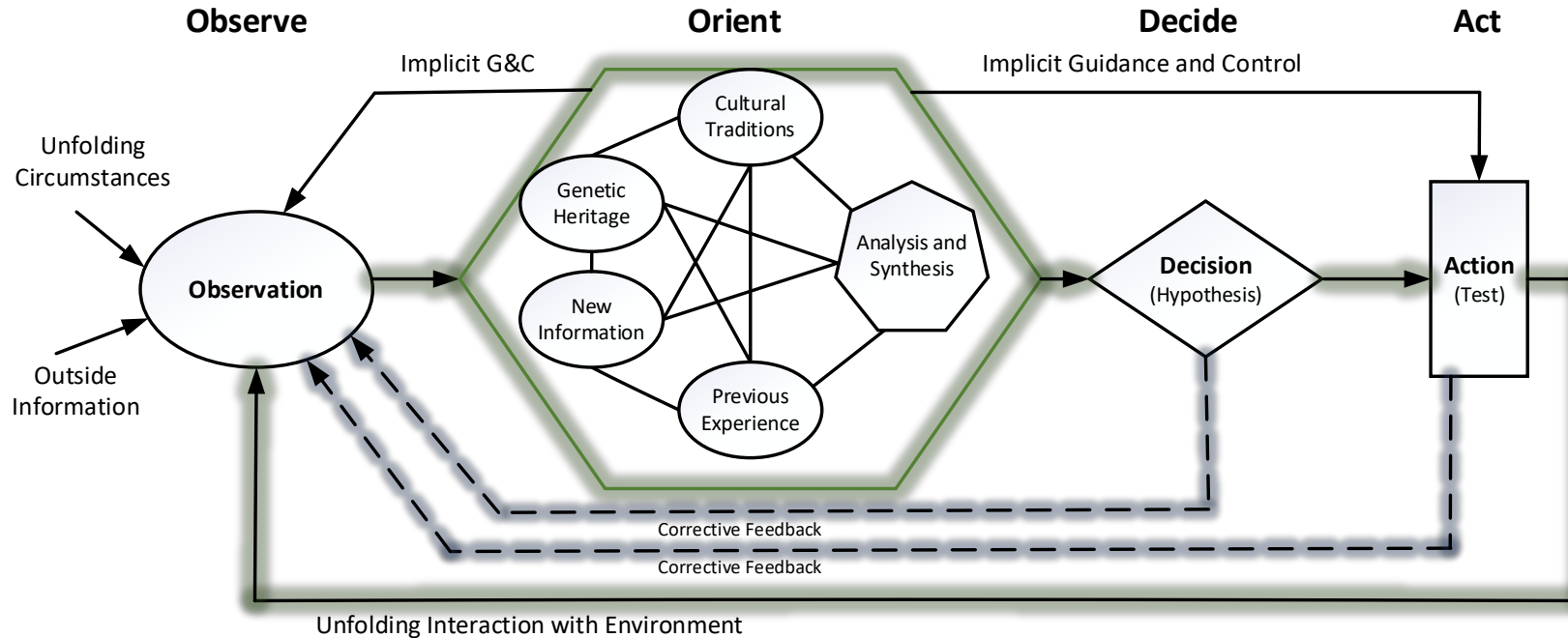
Orientation Phase

- This component took shape over decades.
- The culture traditions, heritage, previous experience are the essence of the individual.
- These are where the patterns reside.
- Creativity and Innovation

Shared Culture



Primary Orientation Loop

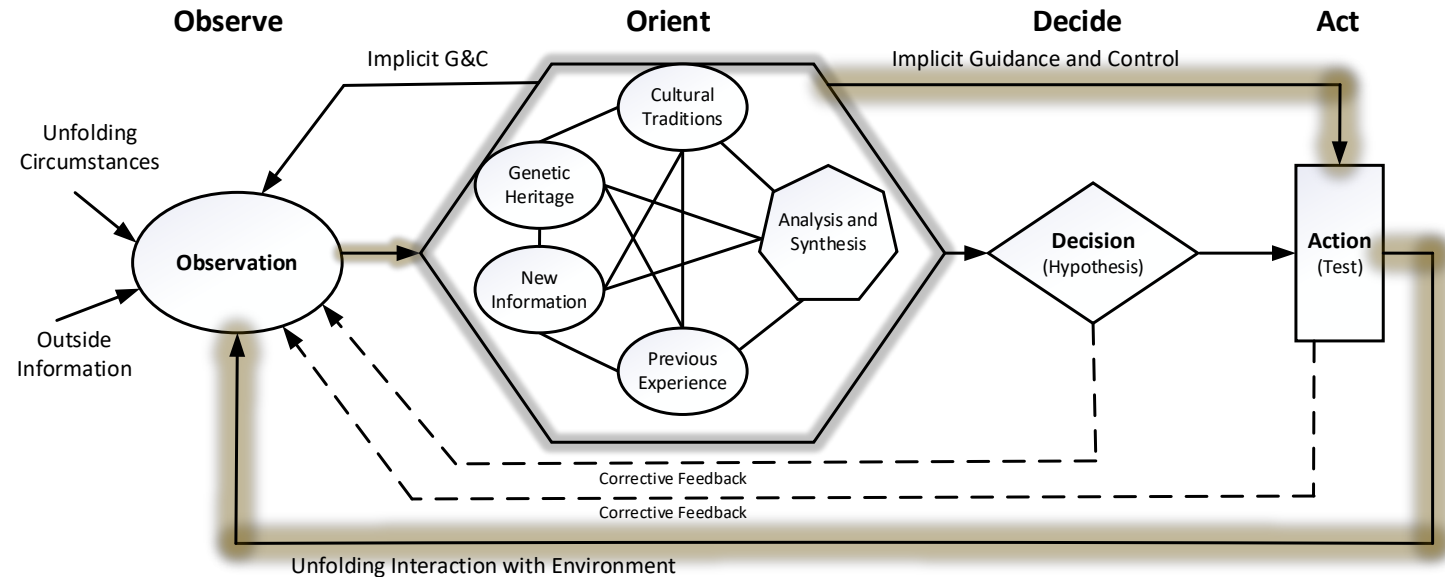


- **Main Loop**
 - Slowest of the loops
 - Requires the most energy

- **Observation**
 - Unfamiliar information is being presented.
- **Orientation**
 - Attempt a match to existing experiences.
 - If none exist, the mind tries deconstruct and reconstruct the info until orientation occurs
- **Decision**
 - As options are available, they are checked/tested to the observation (gamed and or honed).
- **Action**
 - Interact with the reality. This again produces new information for processing.

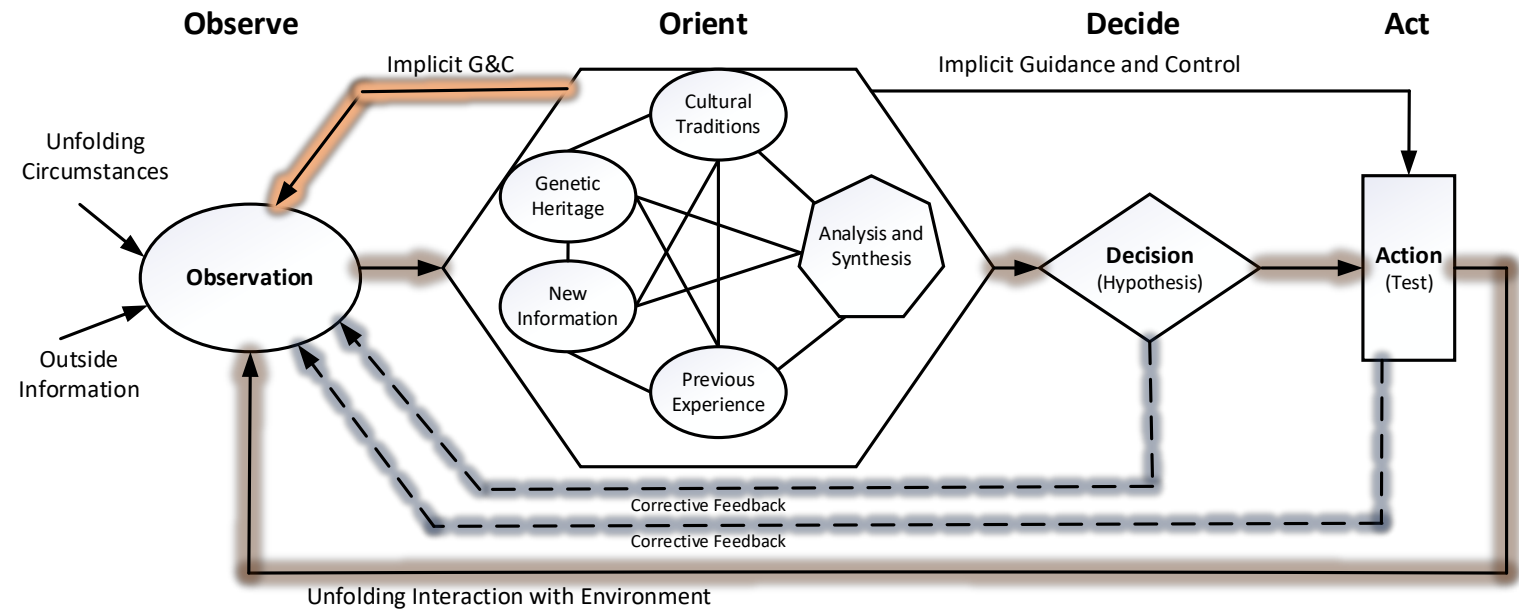
Implicit Guidance and Control

- IG&C Reflexive
 - If there is a pattern match, then less rigor is needed for processing.
 - Saves time and energy
- Example –
 - 10k hour rule.



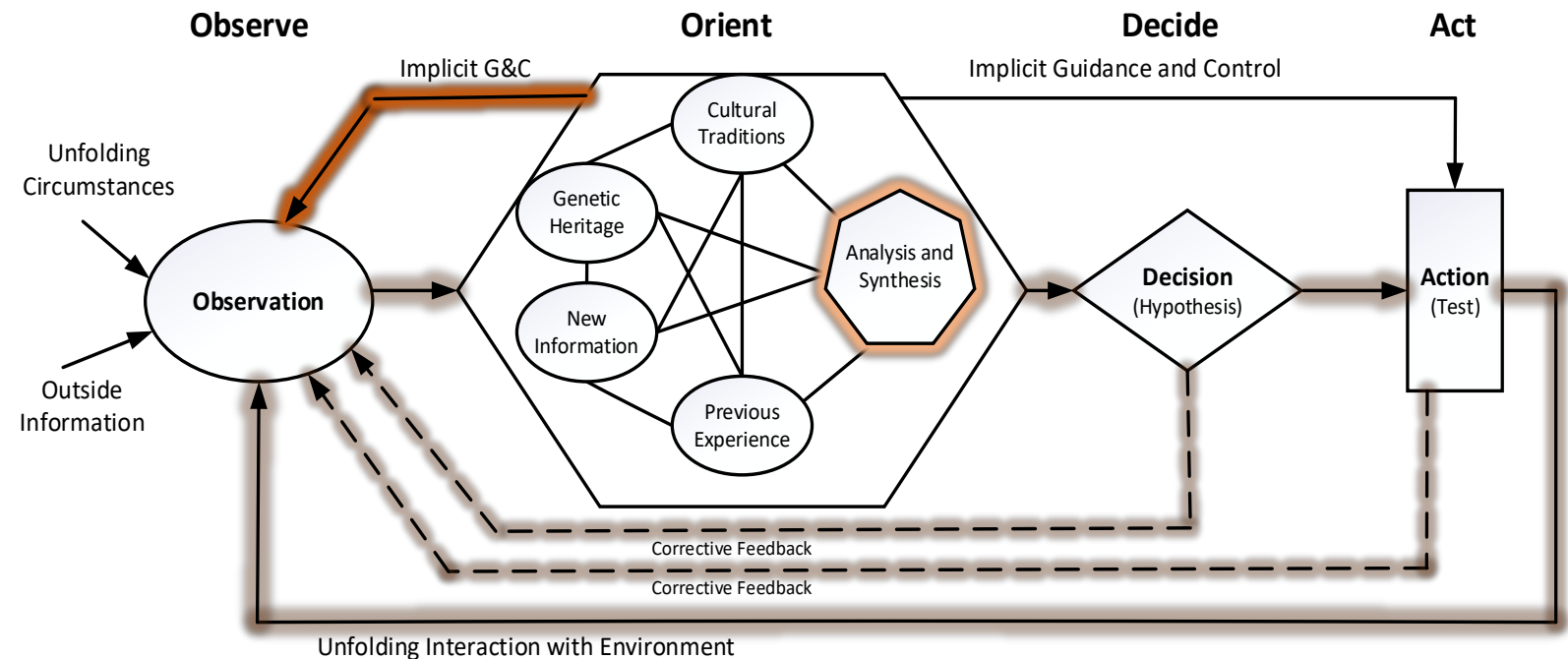
IG&C Proactive – “Goal-Directed Action”

- IG&C Proactive
 - Anticipating events likely to happen.
 - Tuned to hear the signal through the noise.
 - Saves time and energy
- Example –
 - Business analyst meets with a client to discuss requirements.



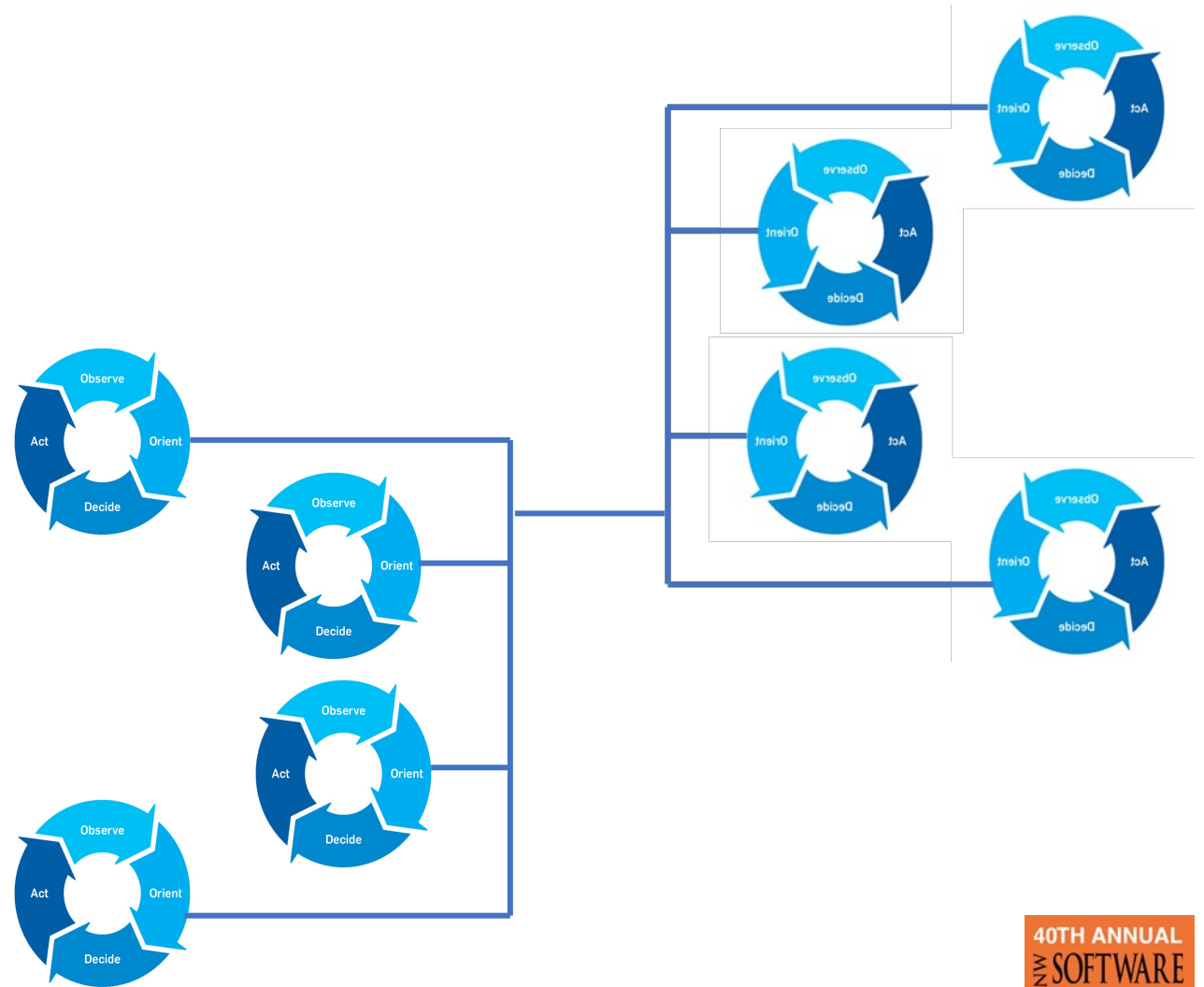
IG&C Proactive - Overdrive

- IG&C Proactive
 - Anticipating events, you desire to happen.
 - Tuned to hear only your signal through the noise.
 - Problematic
- Example –
 - Business analyst meets with a client to discuss requirements and leads them to the desired outcome of the BA.

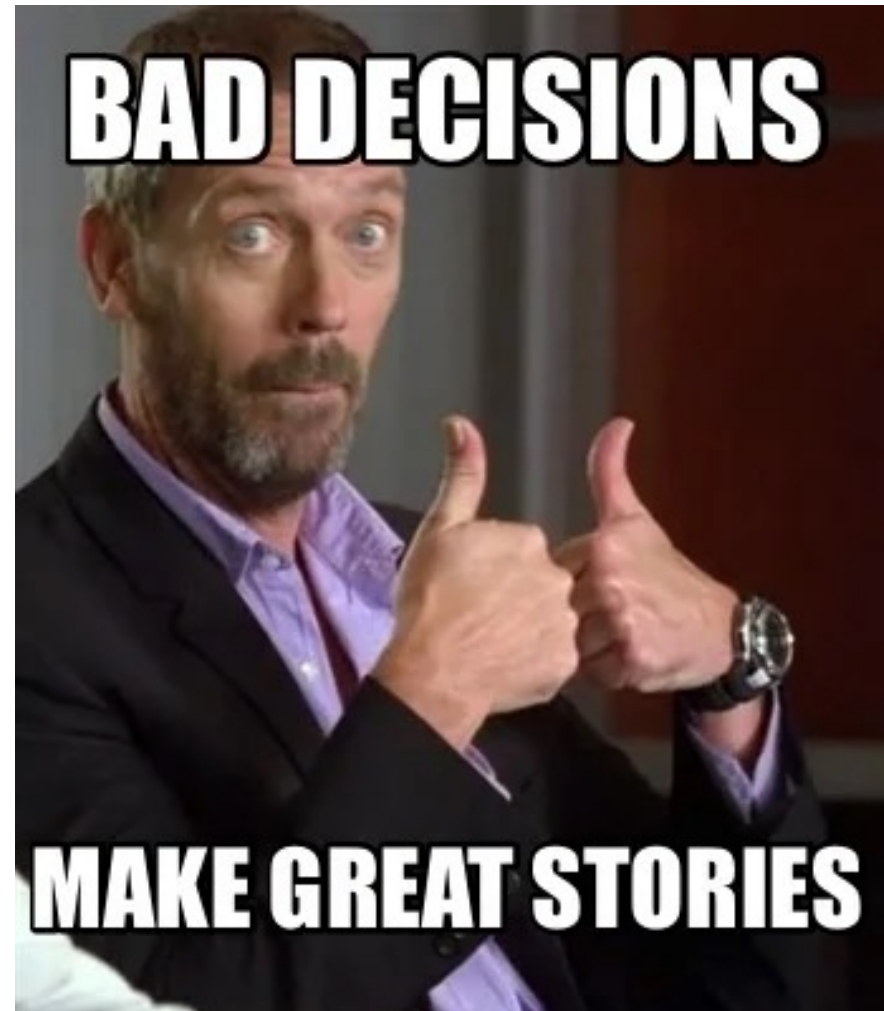


Shared Culture

- Orient
 - Common organization orientation
 - As people work and train together, they develop a shared orientation and gain trust.
 - Imagine a team that observes a condition whereby they all move into an IG&C Reactive mode at the same time.
 - Security breach, system down, etc.
 - minimizes time and maximizes effectiveness

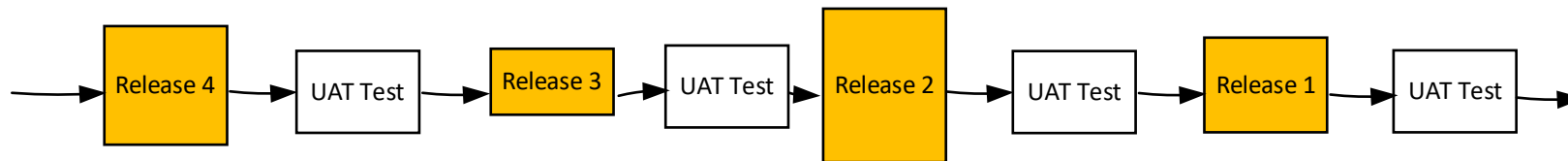


Real World Examples



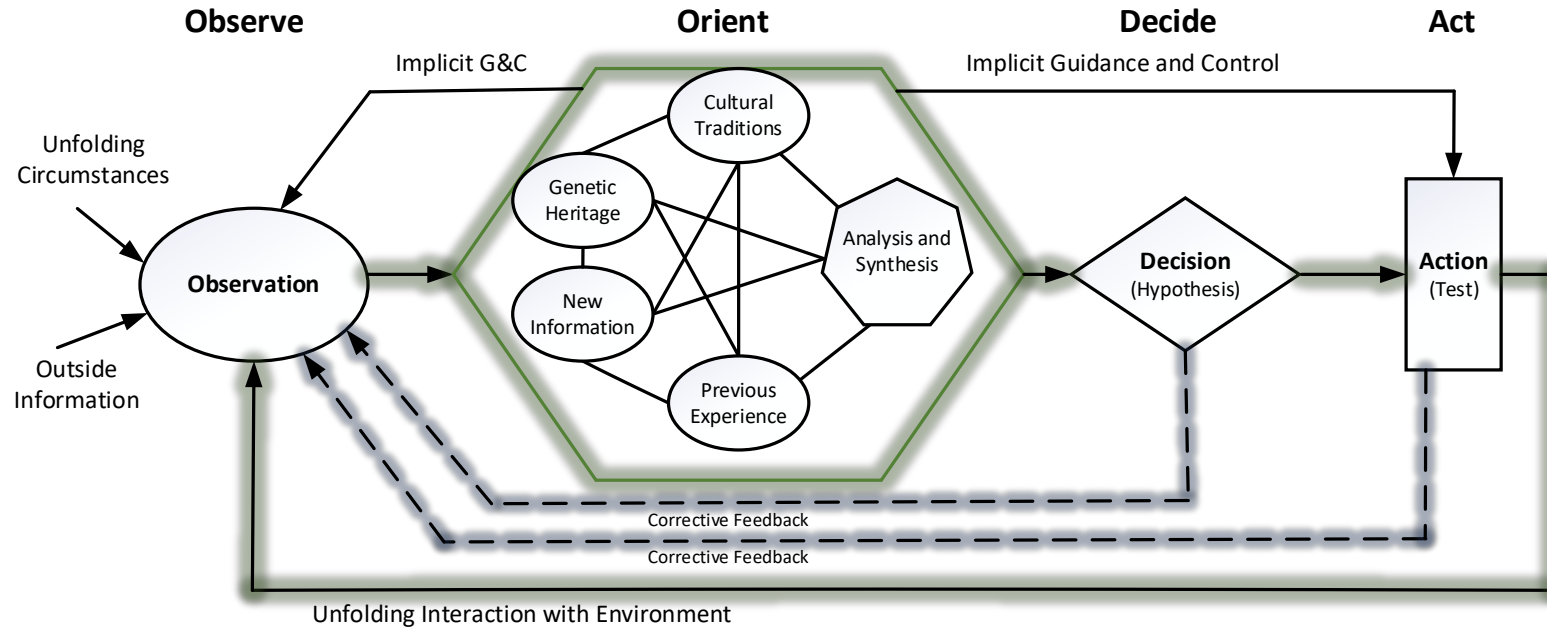
V-Shaped Priority 1 Bugs

- Medical group outsourced software development to an external company.
- The medical group conducted UAT certification prior to releasing the code.
- The vendor developed a release train process that allowed for dozens of projects to be incorporated into a single release.
- The sprint cadence and release sizes were not consistent and were jamming up the fixed capacity UAT test team.
- However, final release quality was good.



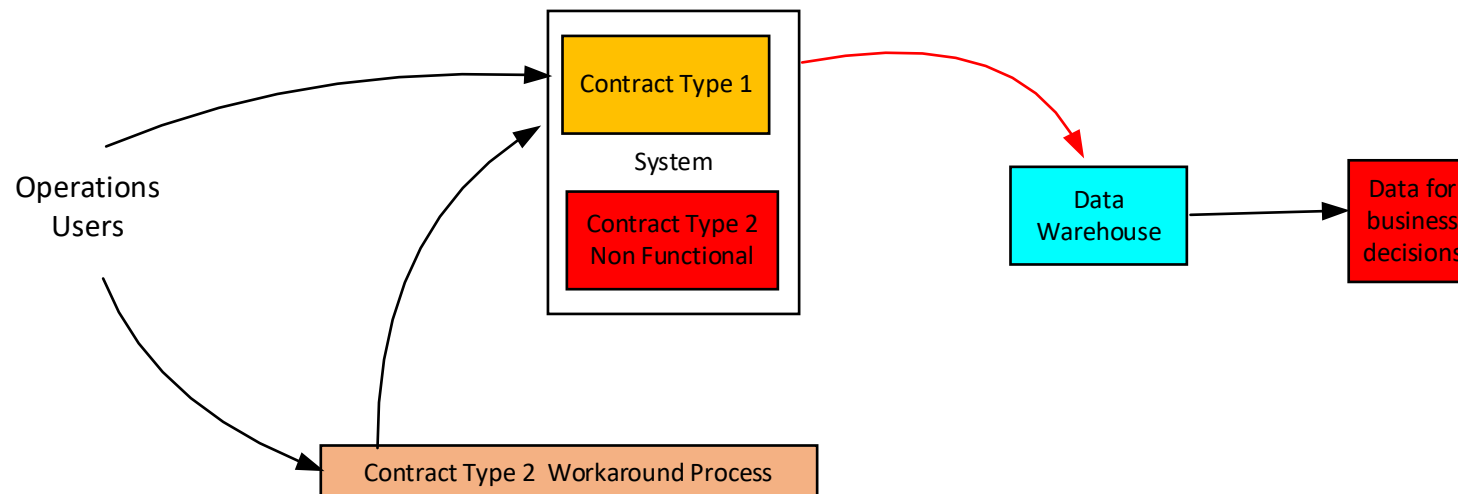
V-Shaped Priority 1 Bugs

- In looking at the UAT defect reports we'd see a spike of P1 defects. Once they were fixed, we'd see P2 defects build up.
- As the release day drew near another batch of P1 bugs would crop up again.
- Any guesses as to why?



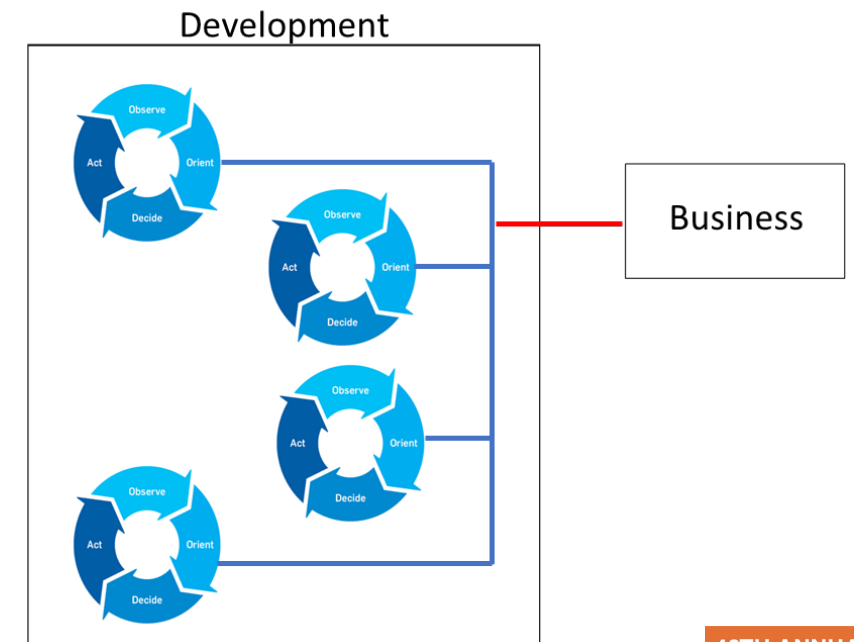
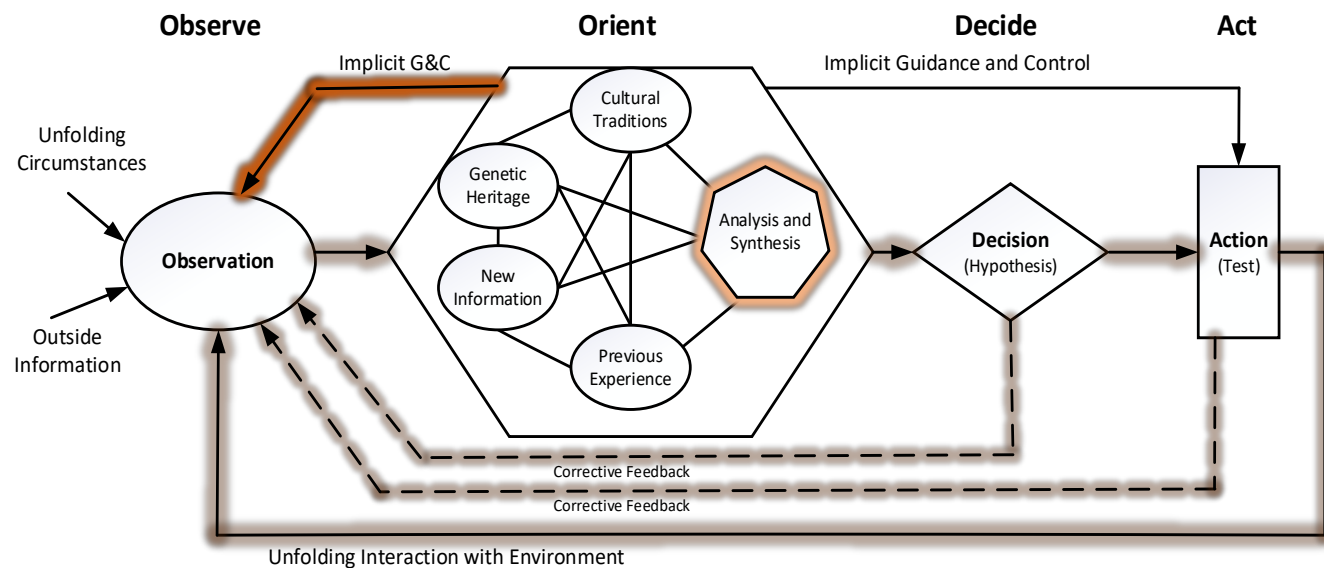
Our Business is Unique

- Commodity based resource contracting company created a contract management system to handle 2 types of contracts.
- The internal PM and Dev team developed an Alternatives Analysis case that indicated the best approach was to build the system in house.
- The final release of the system could only handle 1 contract type leaving the other type to be done in excel files for years.
- There was a fundamental flaw in the architecture that required a full rebuild of the system (at release).



Our Business is Unique

- There were several circuit breakers that did not trip along the way, however, the core issue...guesses?

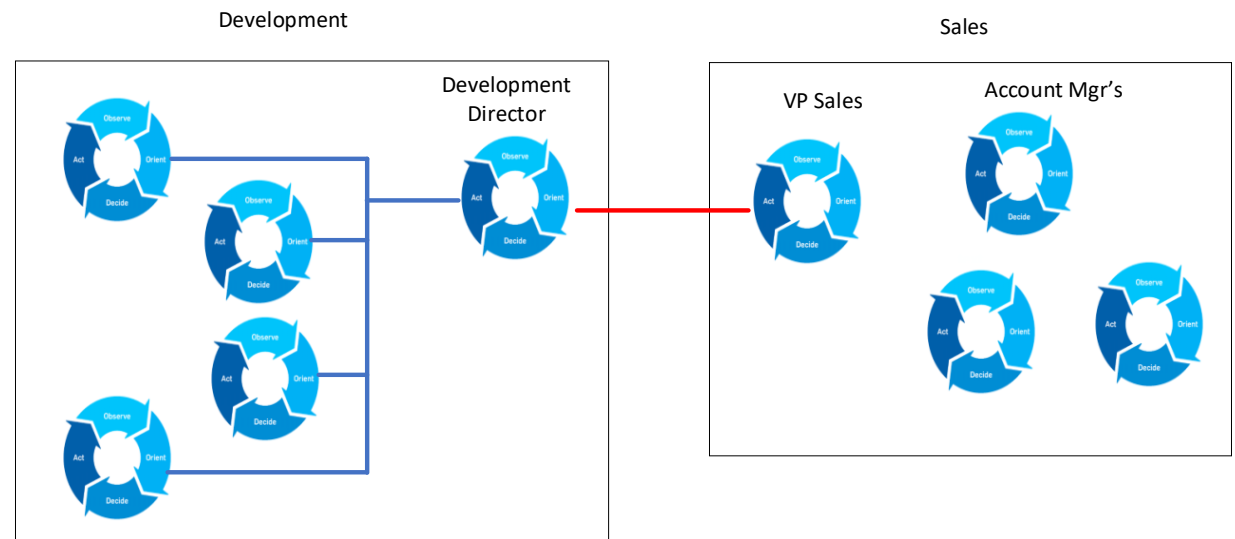


Pivot and Snap

- Hardware/Software company spinoff into a hyper competitive market
- New feature delivery stopped/minimal
- C-Suite at odds with each other
- Director of Products Fired
- Account Managers were calling/lobbying development directly

Pivot and Snap

- A large organization culture is different than a startup.
- When a pivot is required it's the common orientation and trust that keeps the organization together.



Train for Agility



Thank You!

John Cvetko

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