



*“Whole of
Government”
Action*

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Boeing

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Outline

- 1. The Challenge: A Complex World**
- 2. Whole of Government Action: Of Ashby's Law and Apollo 13**
- 3. Effects-Based Thinking**
- 4. Conclusion: Now do it again ...and again...**

1. The Challenge: A Complex World



Complex World means...

- **Very large numbers of interdependent variables**
- **Changing constellation of variables**
 - **New variables arising, old variables fading**
 - **Different weightings**
 - **Different interrelationships**
- **Changing rates of change**
 - **Over time**
 - **From one portion of the constellation to the next**
 - **From one level to the next**

2. Whole of Government Action

Complex World means

- **Cannot predict threats**
- **Will never have all the answers**

Complex World = Complex Problems

- **Cannot be separated**
- **All interrelated, on-going, cumulative**

Asymmetric Competitors make it worse

- **Seek to surprise**
- **Learn and adapt tactics and targets**
- **No “answer” good for very long**

Good News: Ashby's Law of Requisite Variety

The greater the variety of potential responses we can generate – the more likely we will be to succeed

**Nation-States have a wealth of capabilities/
knowledge**

- government,
- industry,
- academic institutions
- people

....if they can be tapped

Apollo 13



“Houston, we’ve got a problem.”

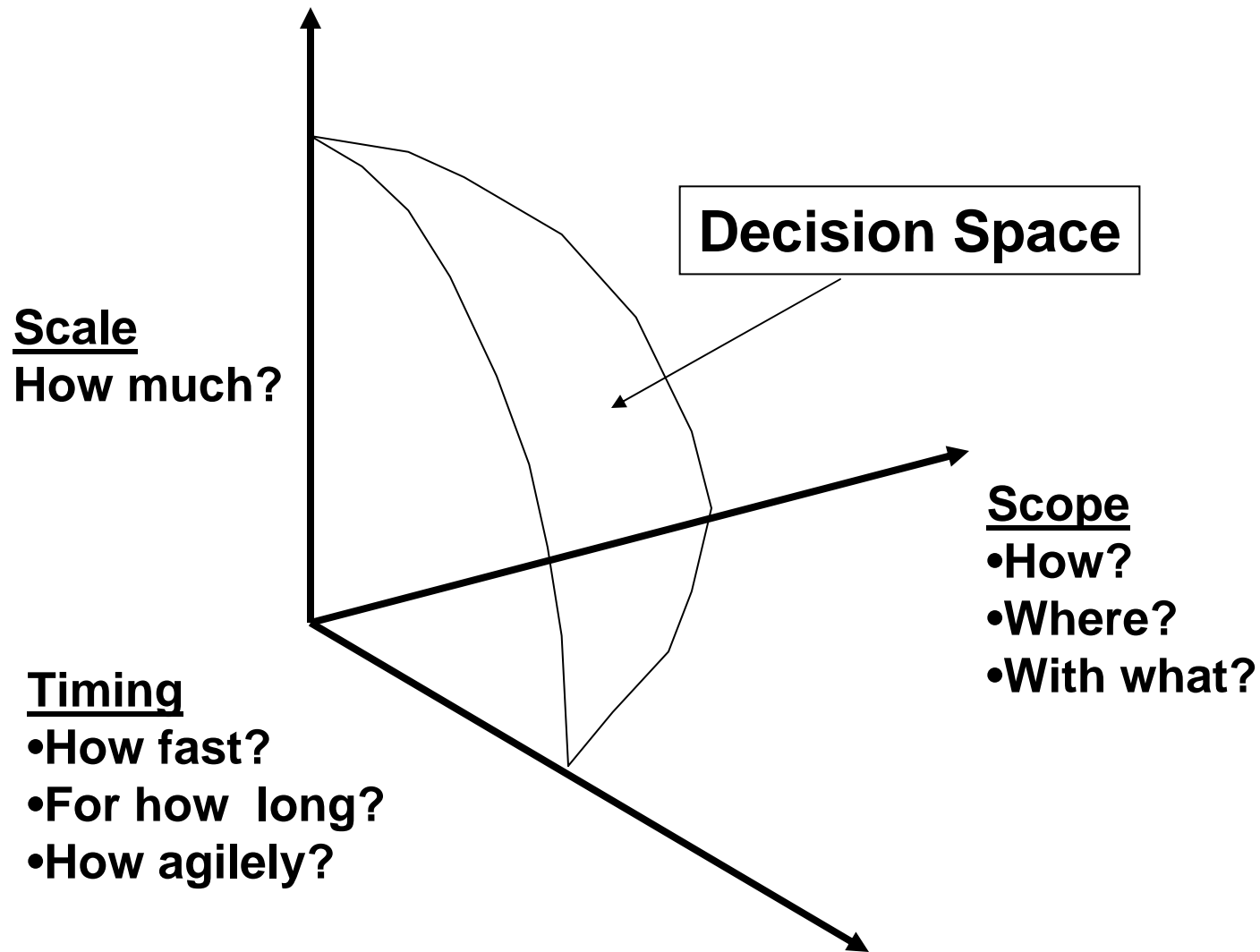
Creating Options

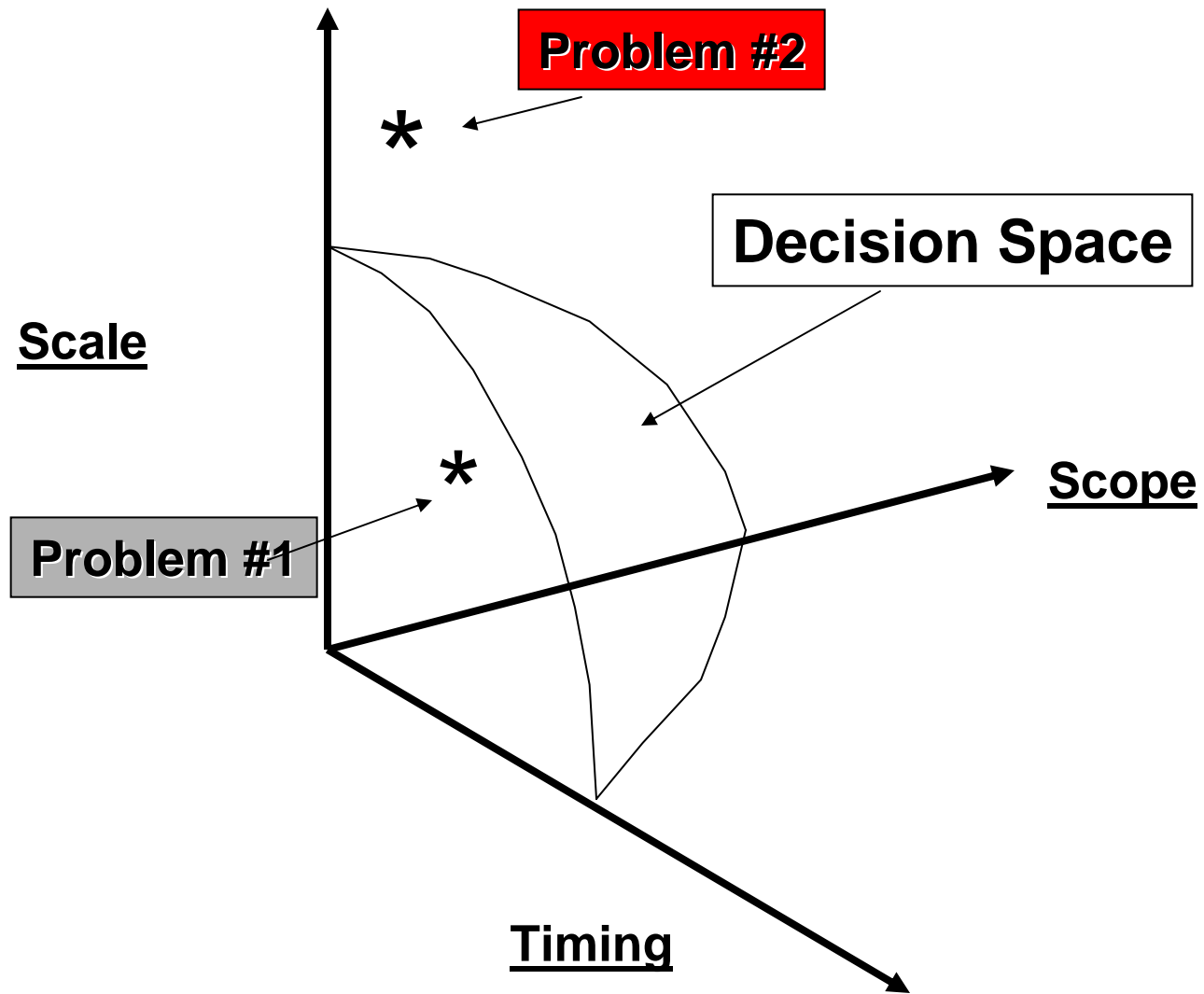
Apollo 13 Example:

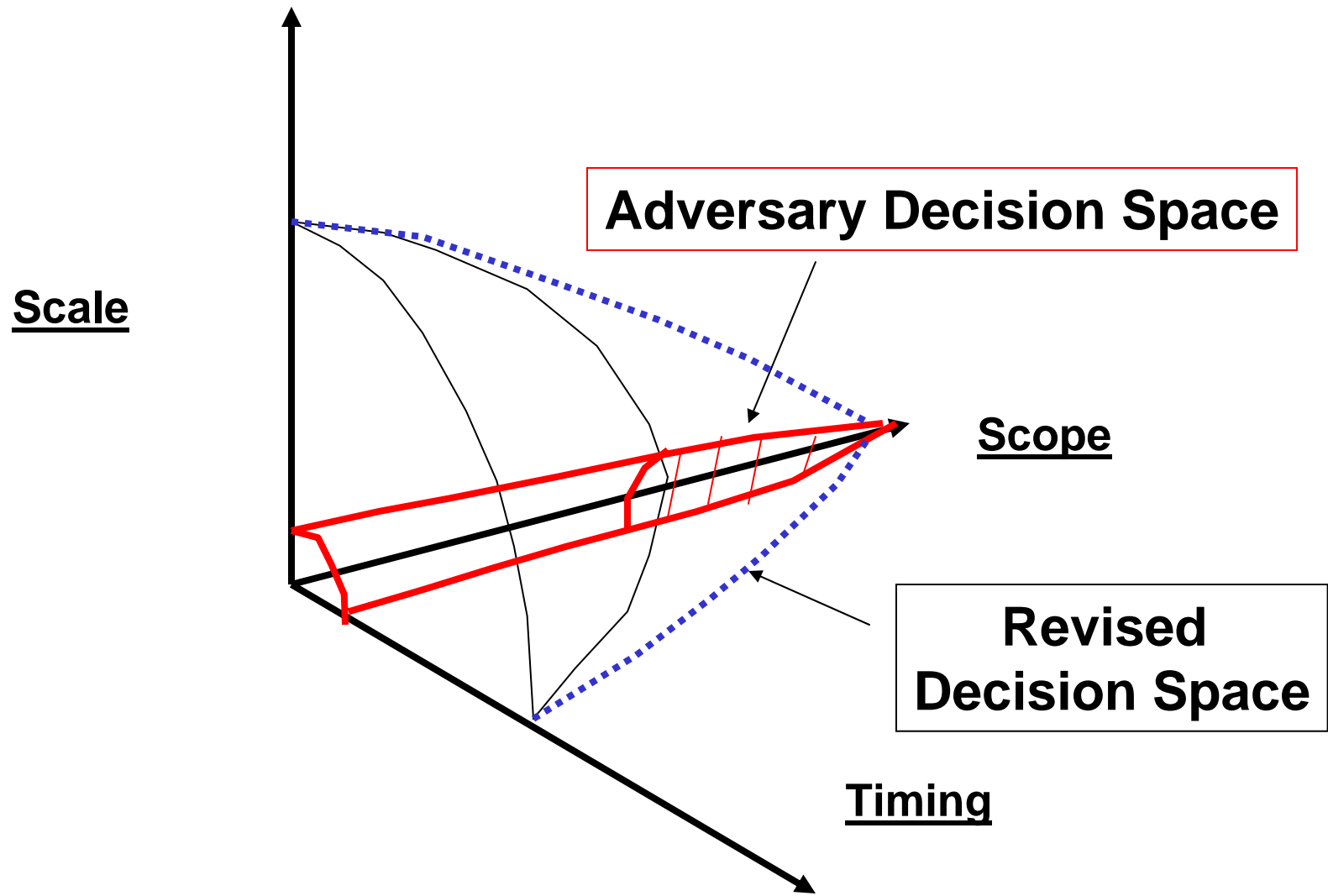
- Capabilities**
- Knowledge**
- People/ Networking**

... and a concept and process to bring them together

The Capabilities-based Decision Space







Knowledge and People

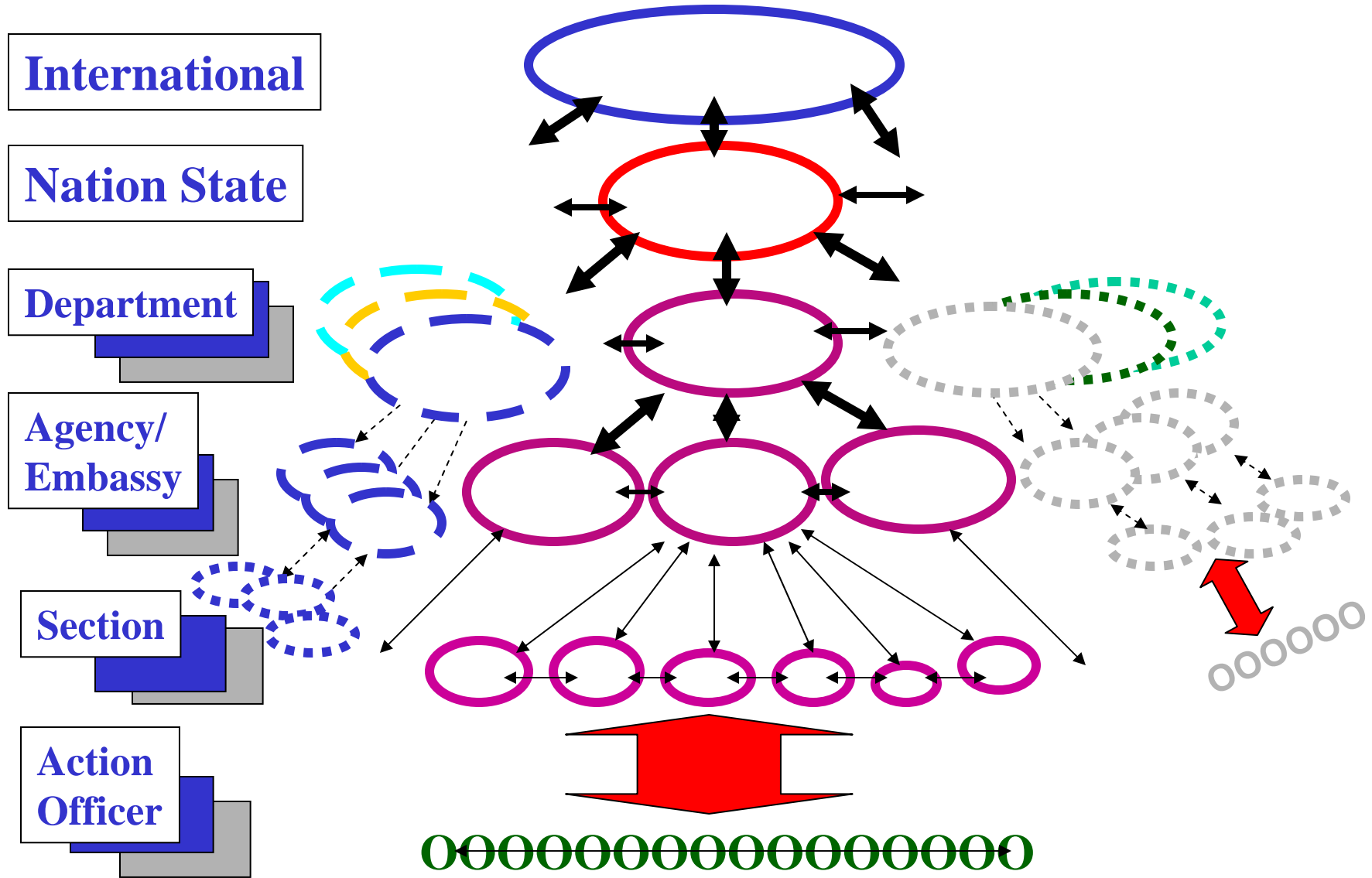
Knowledge: Two kinds

- **Knowledge = the sum of information**
- **Knowledge = internalized understanding of a complex subject**
 - **Expertise based on experience/ mastery of complex subject**
 - **Cannot communicate**
 - **Person to person**
 - **Not readily machineable**

People/ Networking:

- **Right knowledge**
- **Right people**
- **Right networking**

Knowledge/ People in Stovepipes



...in a System of Complex Adaptive Systems

3. Effects-Based Thinking: **Concept and Process**

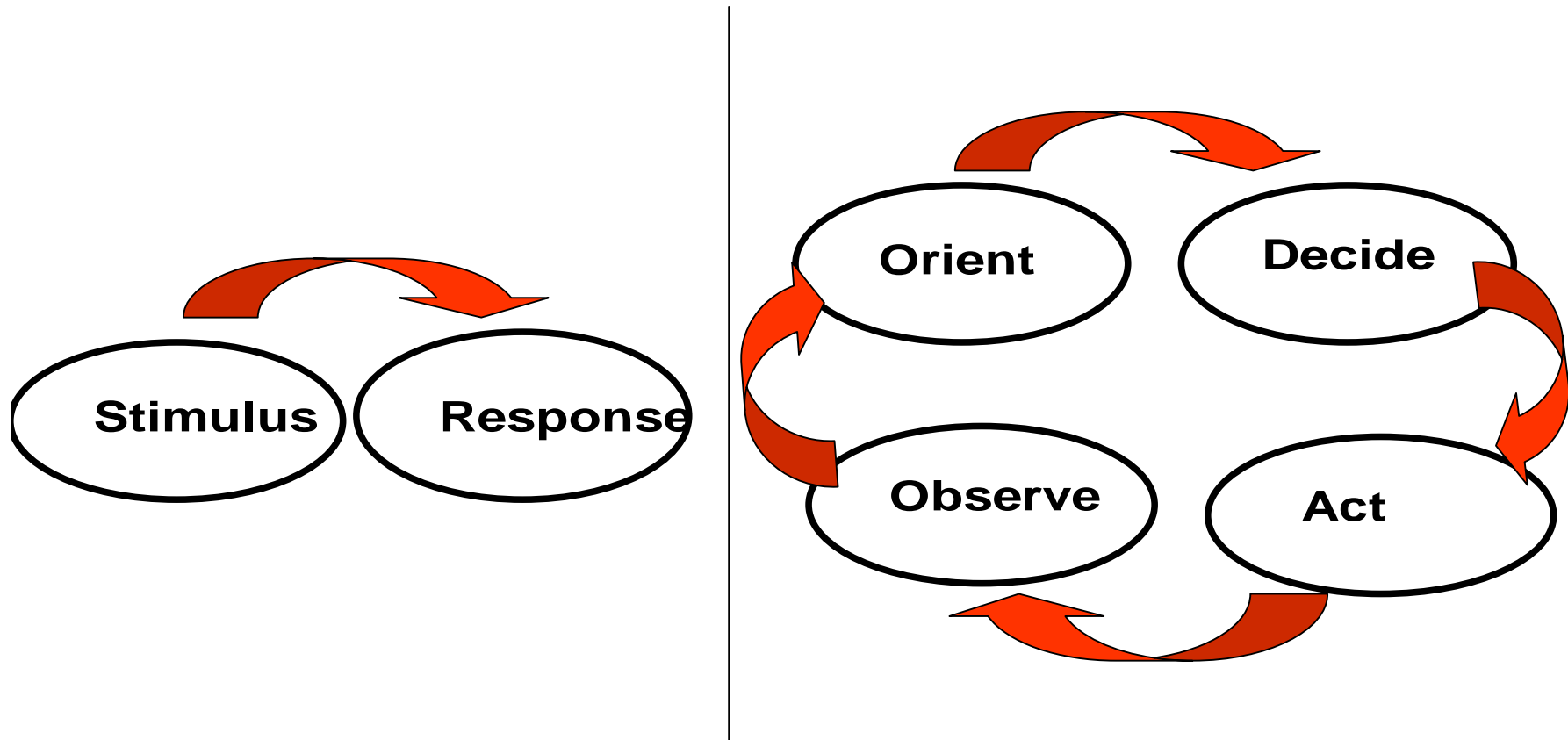
Concept

- 1. Focus on Human Dimension...and therefore**
- 2. Complex**
- 3. Cross-Spectrum**
 - All Types of Operations
 - Humanitarian, Peacekeeping, Presence, Combat, Economic, Aid
 - Peace, Crisis, Conflict, Post Conflict
- 4. Whole of Nation/ Coalition Power**

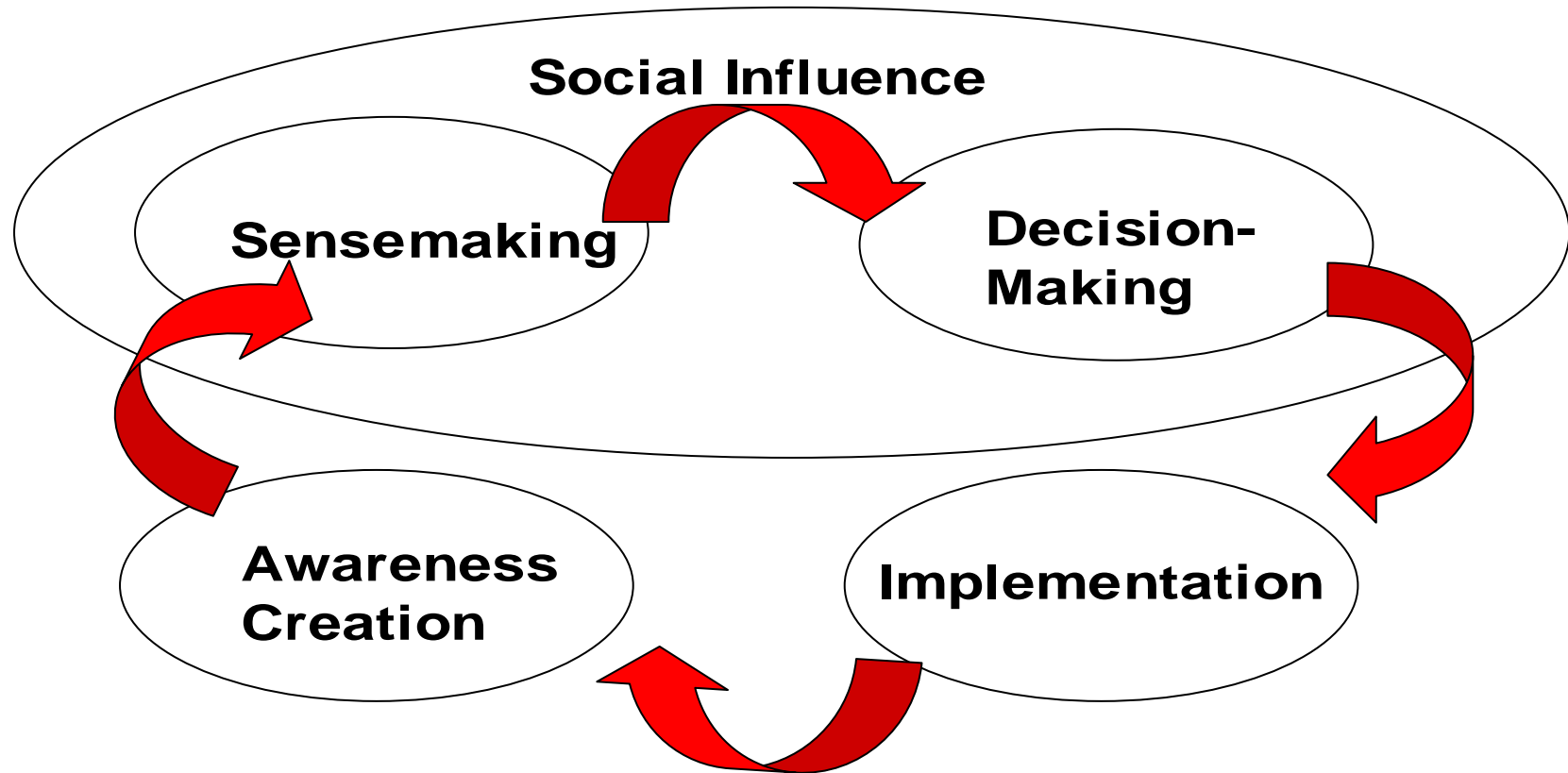
*Applicable across whole of
Government, Coalition, Organization*

Process

From Stimulus and Response to OODA

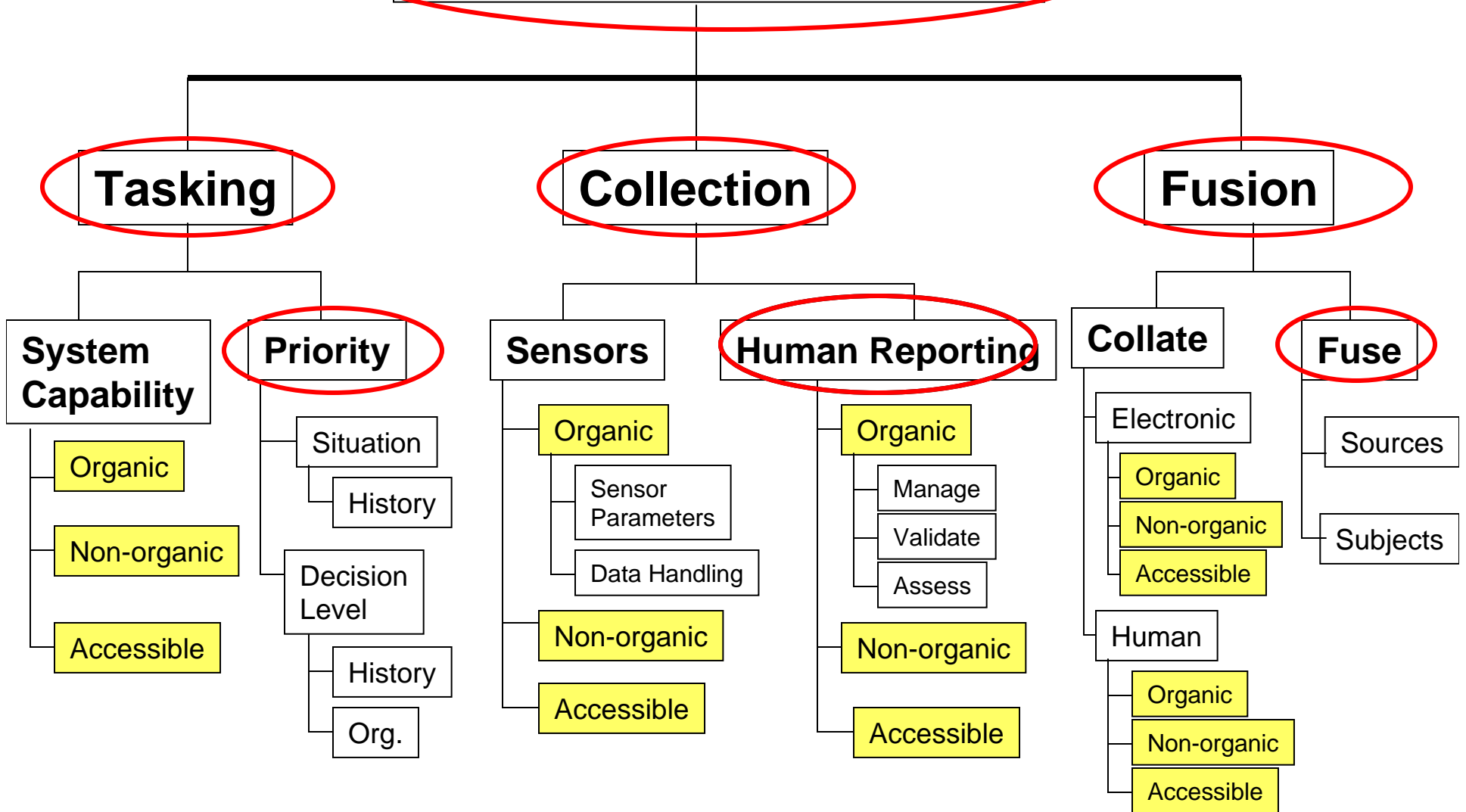


Action Reaction Cycle



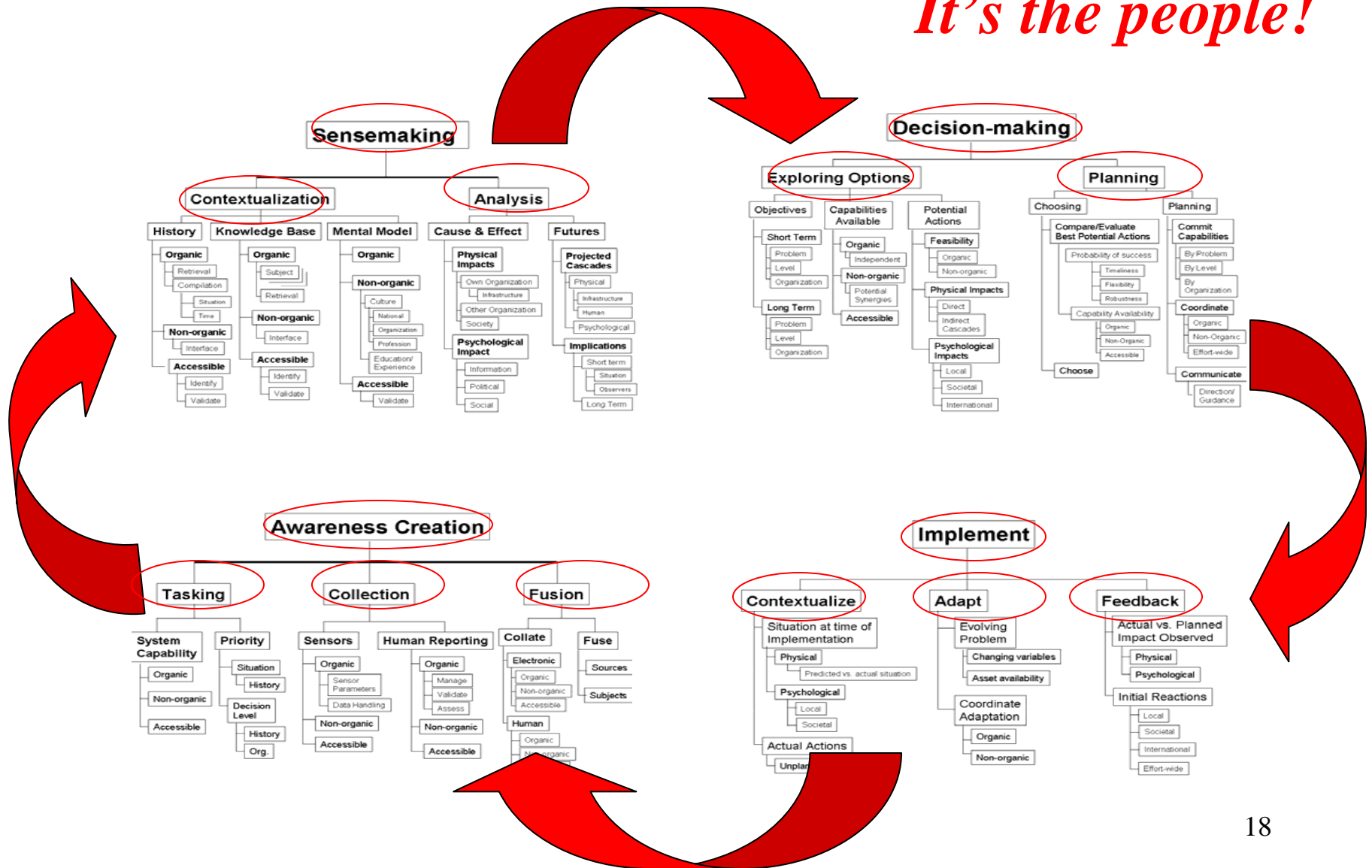
Essential processes common across “whole of”

Awareness Creation

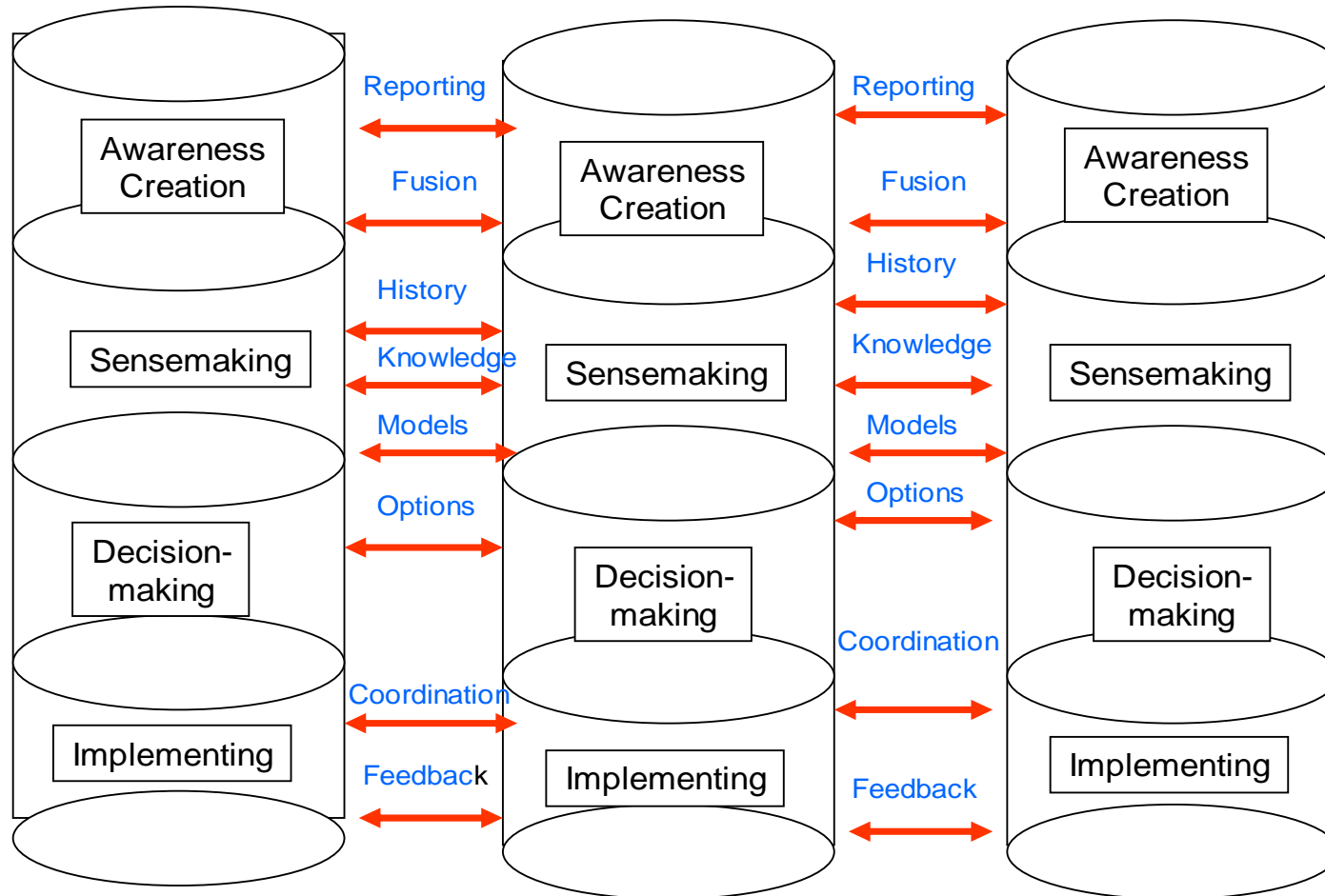


Networking

It's the people!

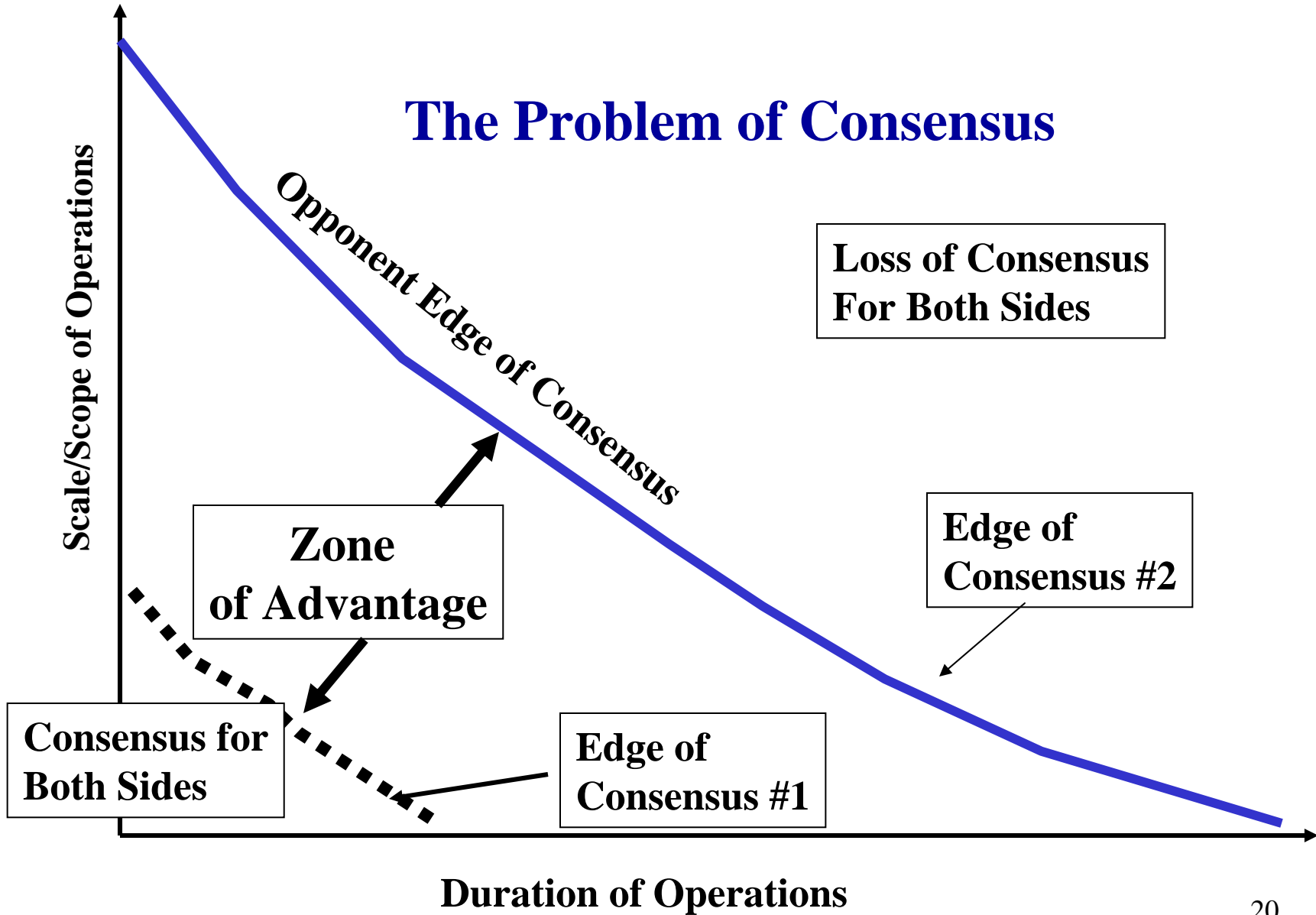


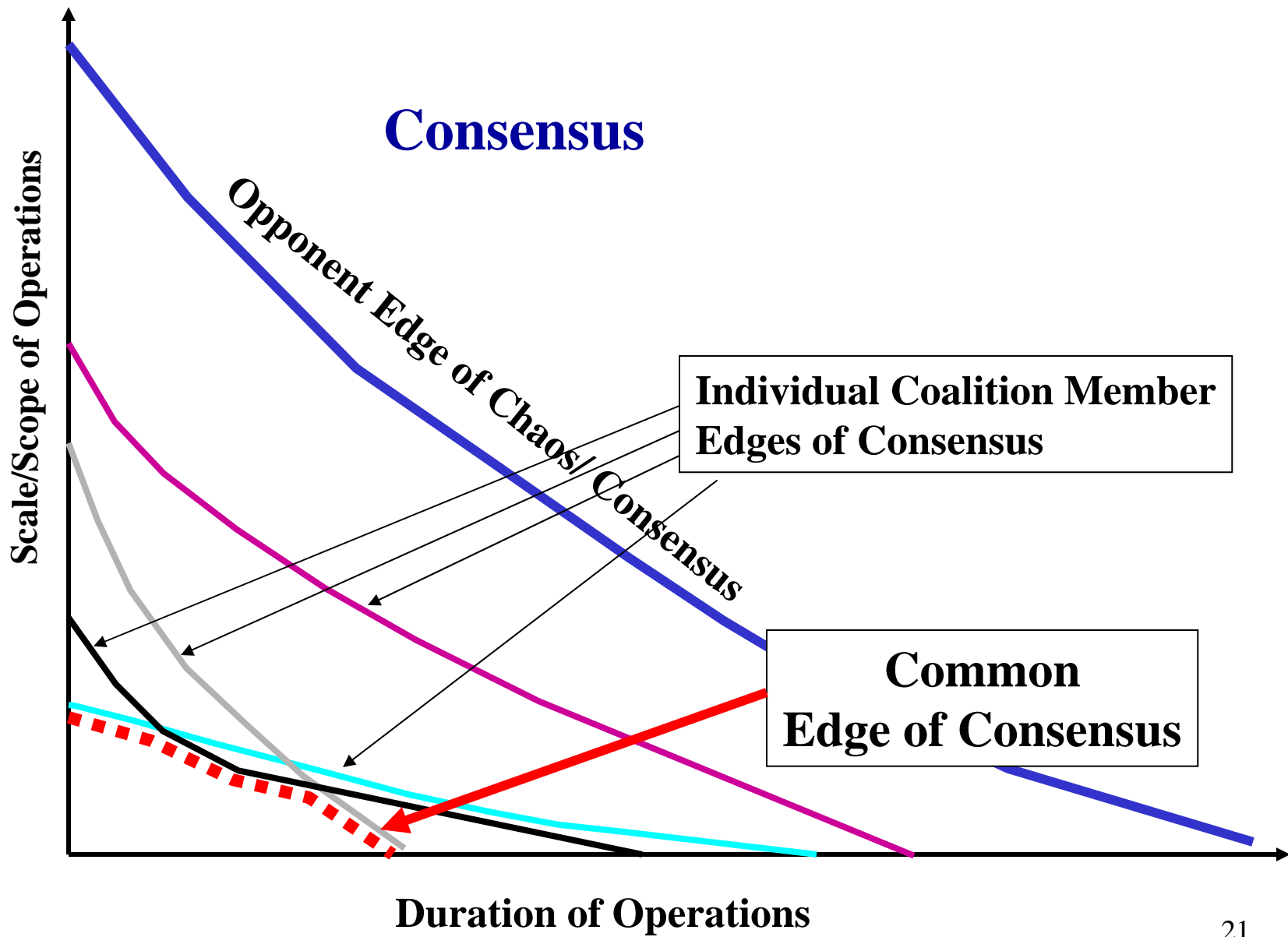
Cross Stovepipe Cooperation



But...

The Problem of Consensus





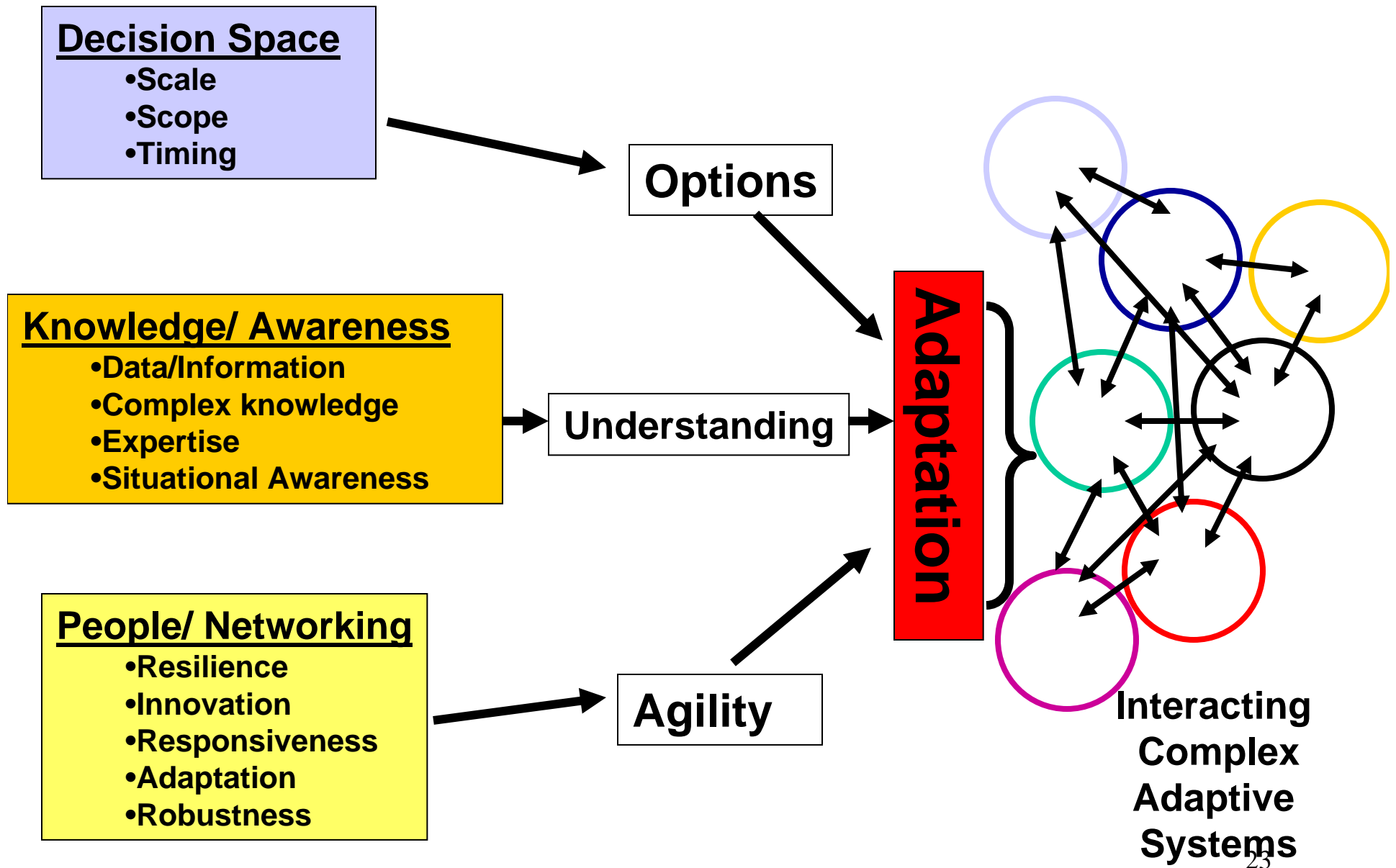
4. Conclusion: Now do it again...

Complexity = Requirement for...

- **Dynamic learning and adaptation**
 - In each cycle
 - Across levels
 - Across arenas
- **Better Whole of Government Action = Better Decision-making to deal with complex adaptive systems means**
 - Decision makers
 - Organizations
 - Networking

} *Must adapt better and faster than competition*
- **“Better” = a *Process* for changing/ adapting**
 - Built around the human in the loop
 - Dealing with large volumes of complex knowledge and information
 - Hybrid of humans, tools, networking

Putting it Together



Back up

Sensemaking

Contextualization

Analysis

History

Knowledge Base

Mental Model

Cause & Effect

Futures

Organic

Retrieval

Compilation

Situation

Time

Non-organic

Interface

Accessible

Identify

Validate

Organic

Subject

Retrieval

Non-organic

Interface

Accessible

Identify

Validate

Organic

Non-organic

Culture

National

Organization

Profession

Education/
Experience

Accessible

Validate

Physical Impacts

Own Organization

Infrastructure

Other Organization

Society

Psychological Impact

Information

Political

Social

Projected Cascades

Physical

Infrastructure

Human

Psychological

Implications

Short term

Situation

Observers

Long Term

Decision-making

Exploring Options

Objectives

Short Term

Problem

Level

Organization

Long Term

Problem

Level

Organization

Capabilities Available

Organic

Independent

Non-organic

Potential Synergies

Accessible

Potential Actions

Feasibility

Organic

Non-organic

Physical Impacts

Direct

Indirect Cascades

Psychological Impacts

Local

Societal

International

Planning

Choosing

Compare/Evaluate Best Potential Actions

Probability of success

Timeliness

Flexibility

Robustness

Capability Availability

Organic

Non-Organic

Accessible

Choose

Planning

Commit Capabilities

By Problem

By Level

By Organization

Coordinate

Organic

Non-Organic

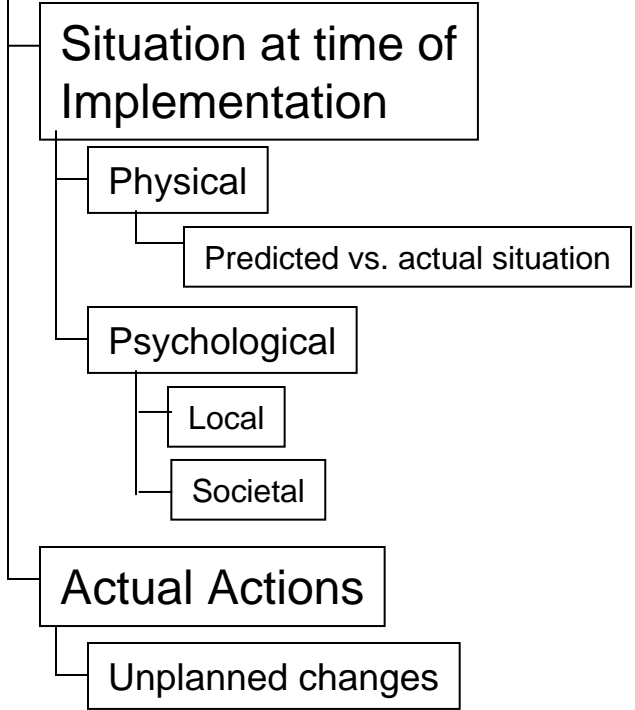
Effort-wide

Communicate

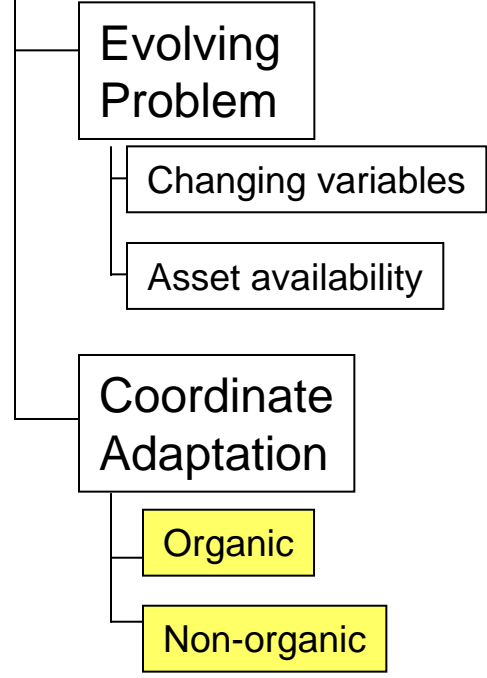
Direction/
Guidance

Implement

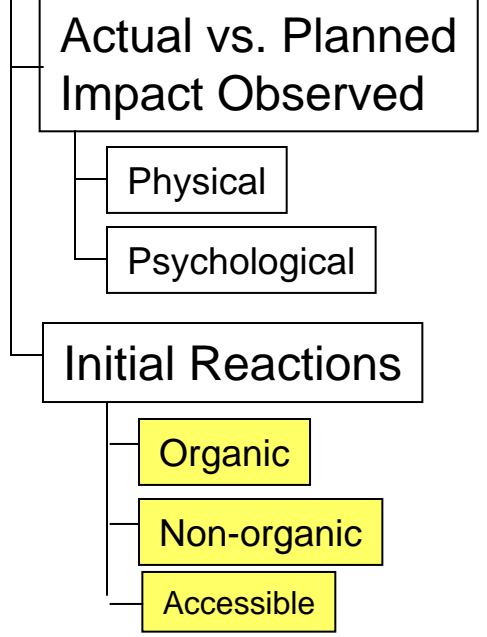
Contextualize



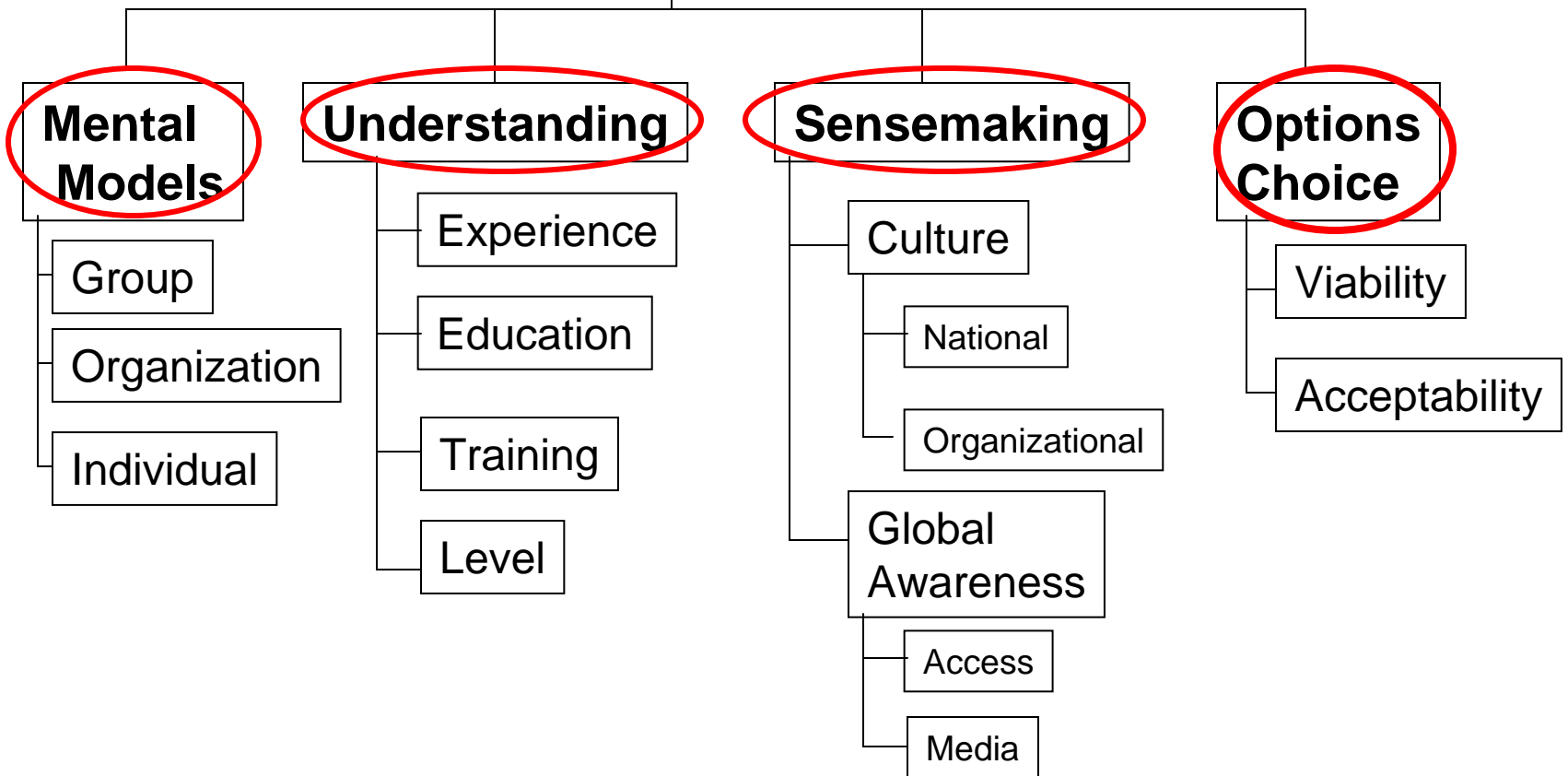
Adapt



Feedback



Social Influence



Some Definitions

- **Effects-Based Operation** – any operation using an effects-based approach

*Coordinated sets of actions directed at shaping
the behavior of observers*

-- friend, neutral, competitor or enemy

- **Effects: Outcomes**
 - Intended and unintended
 - Short term
 - Longer term
 - Cumulative
 - From one cycle to the next
 - From one arena to another
 - From one level to the next

- **End-state**: outcome; how the system or actor behaves but...
 - No final end state
 - End state is a slice of the spiral
 - After single interaction
 - After given sequence of interactions
 - When particular criteria have been met

