

Information Age Framework for Design and Analysis

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The Framework

- The “Industrial Age” ROI Measures
 - Quality (“Better”)
 - Timeliness (“Faster”)
 - Efficiency (“Cheaper”)
- The “Information Age” ROI Measures
 - Integration
 - Integration in Connectivity:
 - Integration in Meaning:
 - Integration in Rules:
 - Alignment
 - Flexibility

Why to Use

- Provides a common frame or reference to design or evaluate solutions that solve Critical Operational Issue(s).
- Example:
 - *Possible* IMPP COI
 - Can the IMPP leave-behind system significantly improve the Public Security response to a coordinated ashore and afloat terrorist attack?

Develop MOEs to Evaluate whether COI is satisfied

	C2	SA	Comms
Quality			
Timeliness		Are all the operational nodes connected to SA? metric: % connected	
Efficiency		Is the speed of command significantly increased? metric: % reduction in decision cycle	
Integration in Connectivity:		Do all op. nodes ashore understand the orders and reporting responsibilities? metric: % understanding	
Integration in Meaning			
Integration in Rules			
Alignment			
Flexibility			5

Summary: Example MOE

1. Are all the operational nodes connected to SA? (metric: % connected)
2. Do all the operational nodes understand the SA? (metric: % understanding)
3. Do all the operational nodes understand the ROE? (metric: % ROE understood)
4. Do all op. nodes share the commander's intent? (metric: % intent understood)
5. Are the communications able to adjust to likely disruptions? (metric: # disruptive events overcome)
6. Is the speed of command significantly increased? (metric: % reduction in decision cycle)
7. Do all op. nodes ashore understand the orders and reporting responsibilities? (metric: % understanding)

Framework Use

- For high-level decision makers use a COI stoplight presentation for **go/no-go decision**
- For acquisition professionals use Industrial age measures to demonstrate cost avoidance ROI and Information Age measures **to demonstrate transformational capabilities**
- For component vendors use questions specific to their business area (C2, Comms, SA) to **configure appropriate solutions**
- For system integrators use questions to motivate **user-centered** vs. self-referential solutions

- Thank you



The Framework - Details

- The “Industrial Age” ROI Measures
 - Quality (“Better”)
 - High quality products display an absence of defects
 - Timeliness (“Faster”)
 - The time required to execute a step in a plan.
 - Efficiency (“Cheaper”)
 - The ratio of output over input
- The “Information Age” ROI Measures
 - Integration
 - Integration in Connectivity:
 - The ability to exchange symbols between nodes (syntax).
 - Integration in Meaning:
 - When symbols are exchanged they convey the same content (semantics).
 - Integration in Rules:
 - When receiving the same content, under the same conditions, all participants will take the same action (cognitive processes).
 - Alignment
 - An aligned organization reflects the owner’s intent (“unity of purpose”).
 - Flexibility
 - Flexibility is the ability of the enterprise to change with a minimum of disruption in terms of cost, schedule, or function.