

# Shared Awareness in Times of Crisis: A Framework for Collaboration

Dr. Liz Avery Gomez and Paul Ray  
New Jersey Institute of Technology

# Motivation

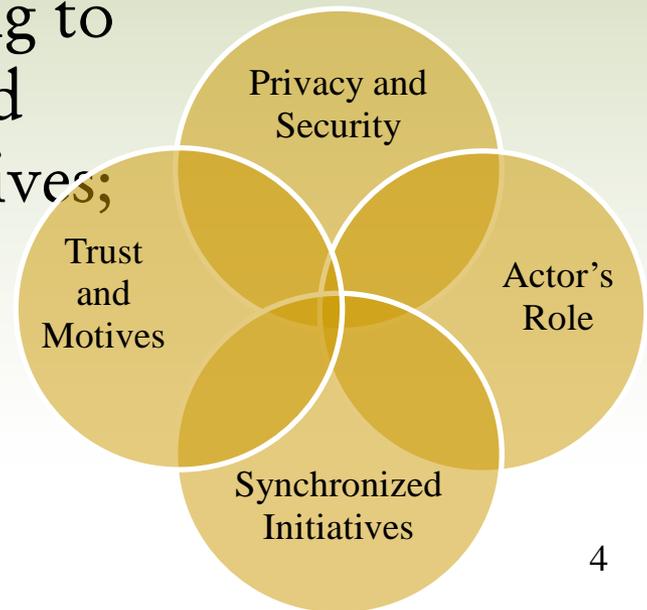
- Cross-organizational collaboration is a constant in any large scale disaster.
- Civilians who are in the affected area are the first to respond in a crisis.
- Local and global organizations respond accordingly.
- Achieving a shared awareness for efficient collaboration remains a challenge.

# Overview of Today's Presentation

- Current view – challenges (disabilities)
  - Privacy and security
  - Trust and motives
  - Synchronized initiatives
  - Actor's role for the incident
- Proposed view – opportunities (capabilities)
  - Best practices
  - Shared awareness
  - Process optimization
  - Cross-organizational teams
- Towards a framework
- Information Communication Technology- next steps
- Conclusions

# Research Objective

- To develop a civil military framework for collaboration in times of crisis.
- The framework should:
  - Support the national strategy on information sharing (DoD, 2007)
  - Bypass the bottlenecks relating to privacy and security; trust and motives; synchronized initiatives; and actor's role.



# Civil Military Operations-Landscape

- CMO involve the organizational structures shown below:

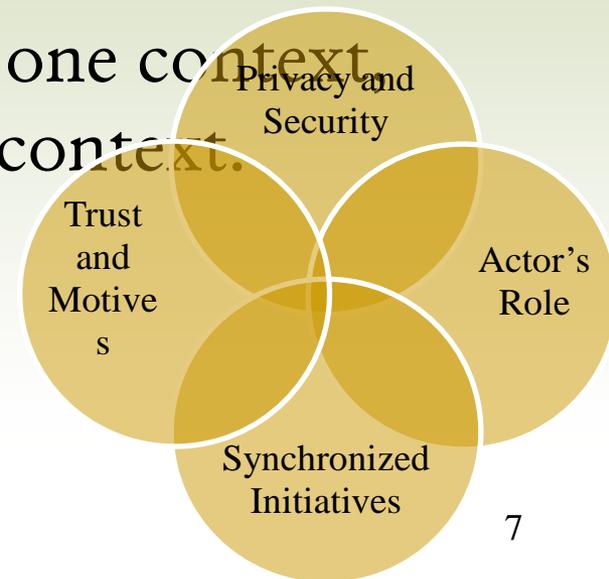


# Capabilities and Disabilities

- Christensen (2006) notes the differences between the capabilities of people and capabilities of organizations where:
  - Processes are methods by which people have learned to transform inputs of labor, energy, materials, information, cash and technology into outputs of higher value
  - Organization's values (criteria that managers and employees in the organization use), are intrinsic when making prioritization decisions.

# Opportunities from Capabilities

- People are quite flexible, in that they can be trained to succeed at different things.
- Processes and values are not flexible and can be ineffective when used in the wrong context.
- The very processes and values that constitute an organization's capabilities in one context define its disabilities in another context.



# Privacy and Security - Process

- Organizations have their own guidelines for privacy and security
- Intranets with portal functionality are effective ways to manage privacy and security internally
- Information systems with broadband access enable internal privacy and security and facilitate shared awareness.

# Trust and Motives for Civil Military Operations - People

- Getting beyond the cultural divide through “re-engineering” to reduce (manual) checks and controls (Hammer & Champy, 2006)
- Efforts are driven by common motives and key properties of culture (Weick & Sutcliffe, 2001).

# Synchronized Initiatives - Process

- Establishing core values can lead to cross organizational resiliency during periods of uncertainty
- For CMO extreme capacity in logistics and civilian resources can be mitigated by information technology.

# Actor's Role - People

- Differences between military roles and civilian roles vary greatly, especially with training and practices
- Military personnel might have access to centralized resources such as the “U.S. Army’s Knowledge” online portal
- Non-military personnel would not have access to the same “knowledge”.

# Inhibitors to Cross-Organizational Collaboration

- Sustainable inter-organizational innovation becomes a disruptive innovation when moving from challenges to opportunities as follows:

Challenges - Disabilities	Inter-Organizational	Cross-Organizational
Privacy and Security	high security (portal)	blocks information flow
Trust and Motives	strengthen organizational goals	conflicting perspectives
Synchronized Initiatives	alignment of processes	inflexible processes
Actor's Role	effective work flow	distinct training paradigms

# Proposed View - Opportunities

- Step 1 – Leverage Best Practices
- Step 2 – Establish a Shared Awareness
- Step 3 – Optimize Processes
- Step 4 – Develop Cross-Organizational Teams

# Step 1 - Leverage Best Practices

- Identify traditional procedures and policies used by organizations
- Propose hybrid protocols (Gomez and Chimento, 2011)
- Consider physical access to resources and planned alternatives when constraints are present (Gomez, 2008).

# Step 2 – Establish a Shared Awareness

- Identify key aspects of an incident that contribute to a common operational picture
- Expedite communication methods (speak freely)
- Increase training and practice to establish trust.

# Step 3 – Optimize Processes

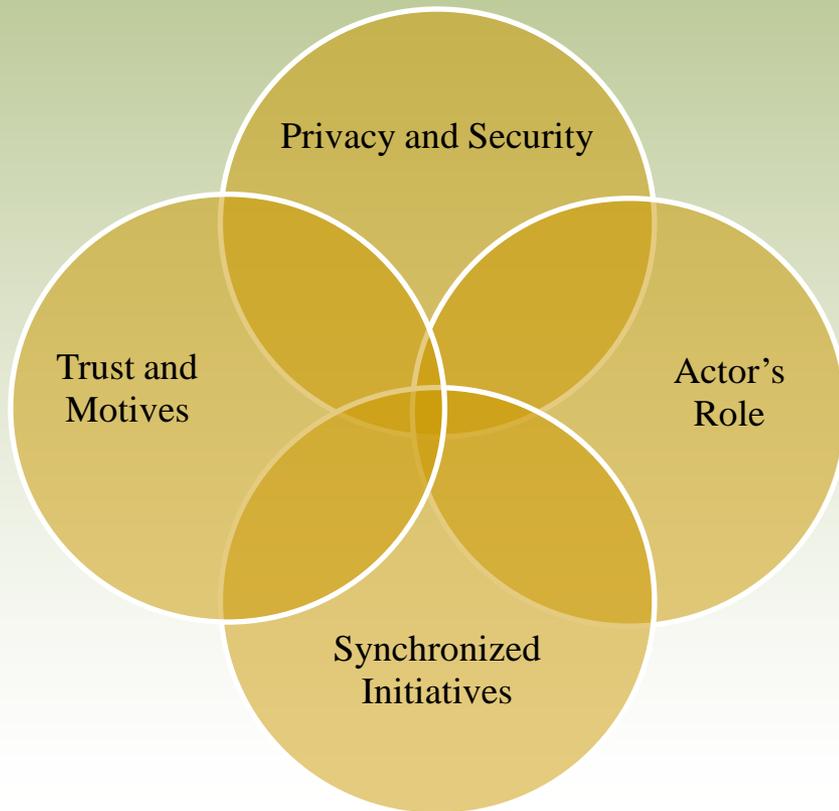
- Implement management concepts to improve efficiencies
- Include the use of information technology for decision analysis and process optimization.

# Step 4 – Develop Cross-organizational Teams

- Establish a team structure that ensures the continuity of business
- Identify areas for continuous training and practice
- Remove personal motivators from incidents objectives
- Transform work groups into established teams (Robbins & Judge, 2009).

# A Civil Military Collaboration Framework

## Current View - Challenges



## Proposed View - Opportunities



# Information Communication Technology (ICT) – Next Steps

- Our focus since 2005 has been on training and practice
- We focus on the use of ICT straddling normal use to early crisis response (first 72 hours)
- We monitor ICT use of grassroots organizations and NGOs as they relate to military, public and private sector
- Our current focus is on process optimization and ways to institute best practices for cross-organizational collaboration providing a shared awareness.

# Conclusions

- Our focus is on processes where sustainable inter-organizational innovation becomes disruptive innovation when confronted with cross-organizational collaboration.
- Our current research focuses on hybrid protocols that address the “data” needed for a shared awareness.

