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”.

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

Shared Awareness in Times of Crisis: A Framework for Collaboration
Inhibitors to Cross-Organizational Collaboration

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

<table>
<thead>
<tr>
<th>Challenges - Disabilities</th>
<th>Inter-Organizational</th>
<th>Cross-Organizational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privacy and Security</td>
<td>high security (portal)</td>
<td>blocks information flow</td>
</tr>
<tr>
<td>Trust and Motives</td>
<td>strengthen organizational goals</td>
<td>conflicting perspectives</td>
</tr>
<tr>
<td>Synchronized Initiatives</td>
<td>alignment of processes</td>
<td>inflexible processes</td>
</tr>
<tr>
<td>Actor’s Role</td>
<td>effective work flow</td>
<td>distinct training paradigms</td>
</tr>
</tbody>
</table>
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
- Privacy and Security
- Trust and Motives
- Synchronized Initiatives
- Actor’s Role

Proposed View - Opportunities
- Best Practices
- Shared Awareness
- Cross-Organizational Teams
- Process Optimization

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

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

Dr. Liz Avery Gomez and Paul Ray
New Jersey Institute of Technology
Shared Awareness in Times of Crisis: A Framework for Collaboration