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Hocevar, Susan Page

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Inter-Organizational Innovations for Port Security

30 September 2010

by

Dr. Susan Page Hocevar, Ph.D.

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This report was prepared by:

Susan Page Hocevar, Ph.D.
Associate Professor
Graduate School of Business and Public Policy

Reviewed by:

William R. Gates, Ph.D.
Dean
Graduate School of Business and Public Policy

Released by:

Karl van Bibber, Ph.D.
Vice President and Dean of Research
Naval Postgraduate School

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14. ABSTRACT
This report describes and analyzes inter-organizational innovations in port security. Inter-organizational collaboration has become increasingly recognized as a critical element of success in many complex and dynamic environments, including homeland defense and security. Two examples of inter-organizational innovations in maritime security are the Joint Harbor Operations Center (JHOC) concept that has been implemented in many major ports throughout the U.S., and the Maritime Unified Command (MUC) that is a more recent innovation implemented in San Diego, California. Brief summaries of the goals, structures, and operations of the JHOC and the MUC are presented and they are then analyzed using criteria from the literature on management innovations. These efforts exemplify successful innovations in organization design and management that have had positive impact on port and maritime security and provide models for future inter-organizational innovations.

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Inter-Organizational Innovations for Port Security

Susan Page Hocevar[1], Ph.D.
Graduate School of Business and Public Policy
Naval Postgraduate School

Inter-organizational Innovations

Inter-organizational collaboration is an innovative approach to management that is recognized as important to national security. But, like any innovation, there are challenges as well as benefits in achieving collaboration (GAO, 2009; Hocevar, Jansen, & Thomas, 2006). This report focuses on one aspect of national security – port security. It presents two examples of inter-organizational collaborations described in archival documents and interviews with port personnel. The primary focus of this report is the Joint Harbor Operations Center (JHOC) which serves as a specific example of an inter-organizational innovation. The second example, the San Diego Maritime Unified Command (MUC) represents an important strategic innovation expanding the value and impact of JHOCs for maritime security.

Mandell and Steelman (2003) describe inter-organizational innovations as a range of structural forms including ad hoc coordinations, temporary task forces, coalitions, and network structures. All of these structures represent horizontal collaborations that involve two or more public, private, or non-profit organizations that have some interdependence in accomplishing a complex challenge which cannot be adequately addressed by any single organization. The authors refer to these as innovations because they "offer the potential for more flexibility than that provided by more bureaucratic, traditional types of structures…and provide the foundation upon which more innovative solutions can develop" (Mandell & Steelman, 2003, p. 202).

This examination of inter-organizational collaborations for port security focuses on management innovations more than technology or product innovations. According to Hamel (2006), a management innovation can create a lasting advantage if it has one or more of the following characteristics: (1) challenges management orthodoxy, (2) is systemic in addressing a range of processes and methods, and (3) is part of an ongoing program of innovation "where progress compounds over time" (2006, p. 2). Hamel defines a management innovation as a

[1] This research was supported by funding from the Office of Naval Research (ONR) and from the NPS International Military Education and Training (IMET) program. The author also would like to acknowledge Erik Jansen and Gail Fann Thomas who were involved in this exploration of port security as a context for our ongoing research on inter-organizational collaboration. Portions of this report will be published in a forthcoming chapter of *Conflict and Cooperation in the Global Commons,* Georgetown University Press.

significant alteration in organizational activities such as goal setting, coordination and control, accumulating and allocating resources, building relationships, acquiring and applying knowledge, or balancing the demands of outside constituencies (2006, p.3). These characteristics are re-visited at the end of the discussion of the inter-organizational collaborations for port security to assess the qualities of the JHOC and MUC as management innovations.

Joint Harbor Operations Centers (JHOC)

In 2003, Project SeaHawk [2] was initiated by the Department of Justice (DoJ) as a test site for a multi-agency operations center that would identify and close gaps in port security (Khalifa, 2009). SeaHawk transferred from DoJ to Department of Homeland Security (DHS) oversight in 2009. In 2004, a second pilot JHOC was established by DHS in San Diego. Anderson (2006) identified three main areas of benefit for these interagency operations centers. First, they provide a central locale to bring together equipment, employees, and data to increase situational awareness and decrease response time. Second, they act as a vehicle for information dissemination. When a situation arises that impacts multiple agencies, the JHOC can immediately alert relevant partners in its security network. Third, they provide awareness of each agency's assets (capabilities and locations), thus increasing efficiency (reducing duplication; identifying most proximal asset to a situation, etc.). Pate, Taylor, and Kubu (2008) identified related goals for SeaHawk in Charleston:

> The goals are to deter and prevent acts of terrorism, manage a joint operations center to track maritime and other modes of transportation operations,…establish an interoperable system for intermodal data sharing and intelligence gathering, and provide a test bed for innovative concepts, initiatives, and equipment related to port security. (pp. 86-7)

Both of these interagency operations centers involve federal, state and local partners in port security. Figure 1 illustrates the range of participants in the start-up phase of the San Diego JHOC. When SeaHawk was initiated, there were approximately 20 participating partner agencies, but that number quickly grew to 47 (Pate, Taylor & Kubu, 2008). The San Diego JHOC has experienced similar growth in both partner organizations and commitment of resources. In both cases, the Coast Guard acts as lead agent and the JHOCs function as multi-agency command centers. They bring together existing sensors for more integrated information sharing and situational awareness, allow for the sharing of assets for more efficient operations, and increase the effectiveness of response to security threats and law enforcement violations (Metruck, 2004; Anderson, 2006; Pate, Taylor & Kubu, 2008). In Charleston, 17 agencies have

[2] SeaHawk is a homophone for CHOC – Charleston Harbor Operations Center

assigned full-time personnel to the operations center. Approximately 30 other agencies participate on a part-time or as-needed basis. The San Diego JHOC has a similar range of participants with co-located representatives from Coast Guard, U.S. Navy, San Diego Harbor Police, San Diego Police Department, FBI, California Highway Patrol, and Department of Homeland Security (Customs and Border Protection [CBP] and Immigration and Customs Enforcement [ICE]).

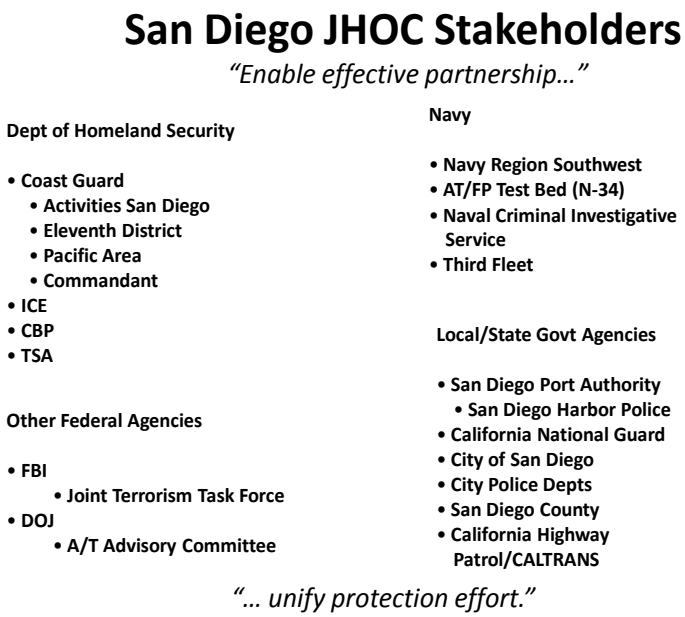

Figure 1: San Diego JHOC Stakeholders. From Metruck, S (2004) http://www.dtic.mil/ndia/2004homeland/2004homeland.html

A large part of the time, the on-site agency representatives function independently, working with information systems linked to their home agencies. But they are also linked together with "smart technologies" (Pate et al., 2008); and these information sharing capabilities (both technical and interpersonal) provide the mechanisms for unified response when security situations arise. Bird (2008) gives an example of the use of technology in the JHOCs. She describes a display of flat screens in the Charleston Operations Center:

> Some show GPS on dispatched SeaHawk vehicles…Others play real-time footage from around the port…One shows the portal…Click on any ship logged in the portal to see the vessel history and its potential threat, where its crew is from and how each SeaHawk-affiliated agency will check it out as it traverses local waters. (Bird, 2008, section on High Tech Tools)

The structural co-location of agency representatives provides a "joint personnel structure" (Watts, 2005, in section *Coordinated planning for MCIP*). This liaison system

not only enables real-time coordination, but increases understanding of multi-agency procedures and practices and how they impact each other (Watts, 2005). This latter is an important basis for interagency planning.

A study of port security by Pate et al. (2008) identified two key areas where "promising practices" have been developed to increase awareness and reduce the risk of acts of terrorism at seaports: "A) stakeholder coordination and collaboration initiatives, B) protocols and systems for detecting and monitoring port-related security risks/intelligence sharing" (p. 67). Figure 2 illustrates the initial Concept of Operations used by JHOC San Diego. It indicates that the separate organizations maintain significant independence of operations as shown by the vertical linkages. The inter-organizational aspects result from the co-location in the JHOC facility and the interactions across watchstanders from the agencies on site (see horizontal arrows for "billets" in Figure 2). According to Watts (2005), JHOCS were designed to address tactical-level weaknesses in intelligence fusion cited by the 9/11 Commission. A major aspect of the JHOC in San Diego was the increased tactical-level coordination between the Coast Guard and the Navy, which has significant assets at the port, in order to improve both port protection and force protection (Watts, 2005).

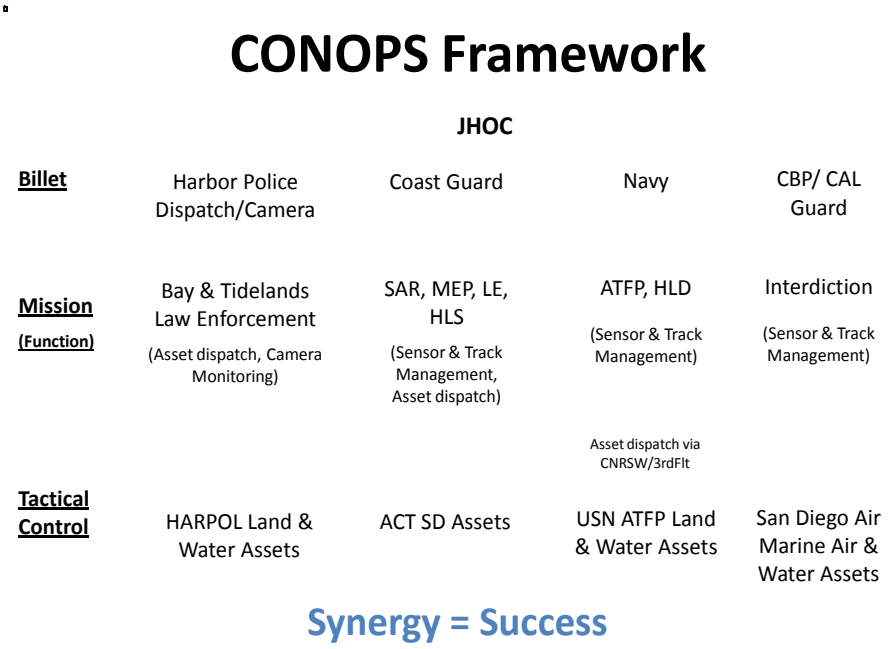

Figure 2: Concept of Operations for San Diego JHOC. From Metruck, S (2004) http://www.dtic.mil/ndia/2004homeland/2004homeland.html

Captain Stephen Metruck, currently Commander of U.S. Coast Guard Sector Seattle, was involved in the early phases of establishing the JHOC in San Diego and discusses the value of inter-agency partnerships in a recent USCG *Proceedings* article. "Regular one-on-one contact with representatives from an organization and periodic evaluations of common procedures through interoperability exercises or other training evolutions must be included within the business practices of a successful JHOC" (Metruck, 2009, p.78). He emphasizes that JHOCs provide a vehicle to help overcome "often-competitive information 'silos'" but acknowledges that this requires a shift in organizational autonomy and the development of mechanisms that support both the separate as well as shared interests of participating organizations. "…[E]nhancing the ability to incorporate individual organizational practices and protocols into operational response plans without requiring the participants to conform to unfamiliar processes or give up jurisdictional authority will overcome objections to expanded port-wide cooperation" (p.79).

Metruck acknowledges that the ambition for inter-operable communications systems has sometimes overemphasized the "single common radio" to the disregard of implications to existing organizational communication inventories. He proposes instead the use of more innovative solutions that allow organizations to retain expensive inventories but that create means for cross network communications and data integration. To illustrate, he cites the Sensor Management Suite developed by the U.S. Space and Naval Warfare Systems Command (SPAWAR) in San Diego. This system "integrates disparate sensors into a common user interface…JHOC can get radar and video feeds from almost any existing system belonging to a willing port partner" (2009, p. 79). He concludes that such accomplishments require high-level policy agreements across participating organizations, supported by technical development and innovation. Watts describes similar innovations in other JHOCs: "In addition to using established databases, JHOCs also use inter-agency sensors and local inter-agency liaison to collect, fuse, and disseminate information that is critical for achieving a multi-agency tactical picture" (2005, in section on *Tactical Intelligence Fusion).*

In his 2004 presentation at the NDIA (National Defense Industrial Association) Homeland Security Symposium, Metruck outlined challenges being faced at the San Diego JHOC. He updated this discussion in his 2009 article that includes experiences with the Puget Sound JHOC. The initial challenges identified included:

- Combining investments from different agencies
- Connectivity to different agency information networks
- Formalizing relationships and responsibilities

- Multi-agency integration standards
- Resources for future sustainment (Metruck, 2004)

In 2009, he describes the challenge "to produce an enduring partnership…and foster a cohesive alliance" (p. 80). He argues for the value of formal agreements such as memoranda of understanding or standard operating procedures to clarify responsibilities and authorities; tactics, techniques, and procedures; and lines of communication. These strategic-level initiatives reduce uncertainty and enable multi-agency engagement in planned events as well as effective response in un-planned events. He also recommends the value of exercise debriefings for lessons learned that can be incorporated into inter-agency procedures, and training protocols (Metruck, 2009).

San Diego Maritime Unified Command

Recognizing the importance of adding strategic and proactive planning mechanisms to the more tactically oriented JHOC, San Diego formally established a Maritime Unified Command (MUC) in 2008. Five core Federal DHS components are involved: the US Coast Guard; three elements of Customs and Border Protection (CBP), which are the Office of Border Patrol (CPB-OBP), Office of Field Operations (CPB-OFO) and Office of Air and Marine (CPB-OAM); and Immigration and Customs Enforcement (ICE). Additional local, state, and federal agencies are involved. Figure 3 illustrates how the different organizations participate in different activities from tactical to strategic (see horizontal arrows).

The participating organizations have established joint strategic objectives and meet weekly to review the prior week's operations and develop a common operational action plan for the coming week (MUC briefing, August 19, 2010). They use the National Incident Management System (NIMS) and Incident Command Structure (ICS) to provide a common format familiar across security agencies. They use a common website (Homeport) to distribute and update the weekly operational action plan. One of the more recent advances of the MUC is the establishment of a single database that captures metrics of interest to all participating organizations. They jointly defined the initial metrics and regularly review new or revised metric requirements. In a recent meeting, Captain Farris (Commander USCG Sector San Diego) suggested a new field in the database to document "critical assists." This information will capture results that could not have been achieved without cross-agency participation (MUC meeting, August 19, 2010).

Comments from different agency representatives emphasize that the regular strategic and operational planning approach of the San Diego MUC is an important innovation. Specific aspects identified as innovative include: the systemic (tactical to strategic) and formal

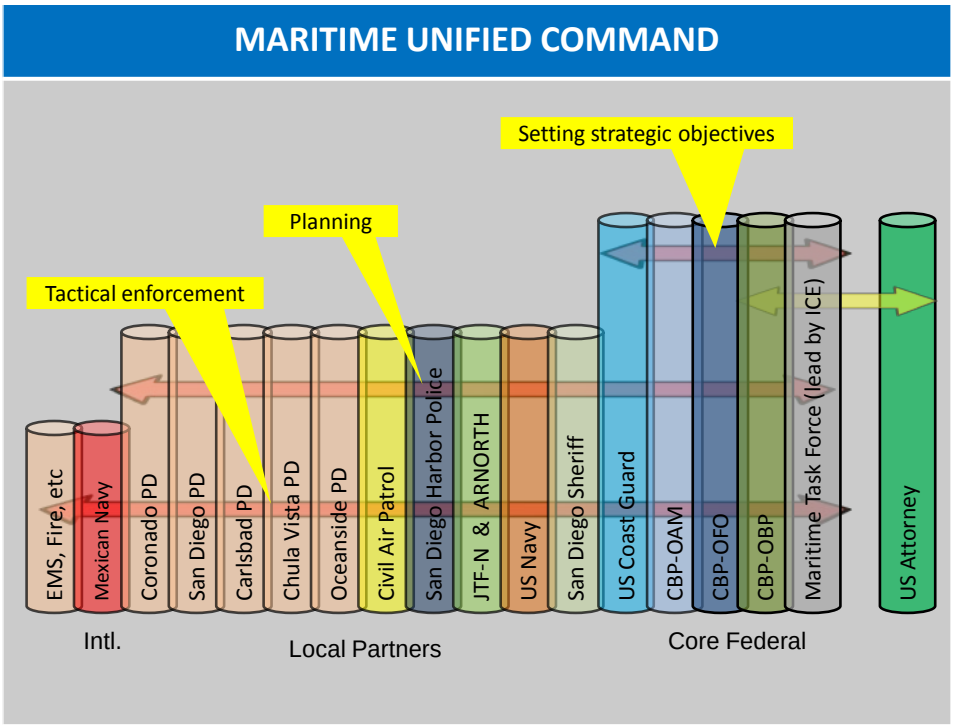

Figure 3: San Diego Maritime Unified Command (from MUC briefing 8/19/10)

collaboration processes, and the involvement and support of strategic leadership. One USCG officer commented that, "The intent of senior leadership is to invest in connections with other agencies. Requests to make these connections are not only approved, but are encouraged" (personal interview, August 19, 2010). A CBP-OFO officer remarked at a MUC presentation to Congressional staffers that his organization originally sent someone just once a month to MUC meetings. After realizing the value of involvement, their organization now participates in the weekly MUC planning process and has an agent in the JHOC for two shifts, and they are aiming for 24/7 participation (MUC briefing, August 19, 2010). Congressional testimony from Rear Admiral Vincent Atkins (April 19, 2010) summarizes well the important value of the unified command approach to collaboration for maritime security.

> Members of the San Diego Maritime Unified Command attend weekly Operational Planning Cell meetings…Senior managers receive a joint intelligence brief, provide strategic guidance, and then depart, leaving the agency tacticians to formulate an operational plan [OAP] that supports the mission requirements, and is responsive to cued intelligence…The OAP has maximized the widespread deployment of forces in a logical and organized manner. The OAP has also exploited the strengths of the assets that each agency brings to bear…In addition to our civil law enforcement port partners, the San Diego Maritime Unified Command now integrates U.S. Navy, U.S. Marine Corps, U.S. Air force, and DoD special forces into homeland security and law enforcement operations. The success of the joint planning process has been recognized as a

best practice. Coast Guard Sector San Diego planning officers have exported the process to both Coast Guard Sector Los Angeles / Long Beach and to CBP Office of Border Patrol Yuma Sector…There are several key principles that leverage success with our partners such as CBP Office of Air and Marine:

- Unified command, control and communications across defined joint operating areas;
- Integrated intelligence, situational awareness, planning, and operational response; and
- Common platforms, doctrine, tactics, and training. (Atkins, 4/19/10).

Analysis and Conclusions

Mandell and Steelman (2003) propose a taxonomy of institutional inter-organizational innovations that range from informal partnerships to "more structured and interdependent collaborations that encompass broad systems change to accomplish a common policy goal" (p. 203). They specifically identify five categories:
(1) intermittent coordination that involves limited interaction and resource sharing; (2) temporary task force or ad hoc activity that has a limited purpose and timeframe; (3) permanent or regular coordination that involves commitment of resources beyond information sharing and addresses common goals, but where risk is kept at a minimum; (4) a coalition that involves interdependent and strategic action that has a specific, but narrow scope and requires member commitment of significant resources; and (5) a network structure that addresses "a broad mission and joint and strategically interdependent action" (p. 204) and requires a significant investment of resources and a commitment to overarching goals.

The initial establishment of the Joint Harbor Operations Centers (JHOCs) brought together organizations with a common interest in port security and represents an example of a permanent coordination that was substantially about information sharing but also included some coordinated activities. Participating organizations invested significant resources, but many of the activities in the JHOC remained independent, and the risks involved in engaging in this collaboration were limited. In San Diego, as experience was gained in the potential benefits of collaboration, the scope and participation has broadened. The establishment of a strategic approach to collaborative planning via the Maritime Unified Command (MUC) demonstrates the characteristics of a network structure (Mandell & Steelman, 2003).

Table 1 shows some of the typology characteristics defined by Mandell and Steelman (2003). The JHOCs brought together organizations that had both a shared and individual perspective on the problems of port security. They maintain a focus on

both independent and interdependent goals. Within the JHOC, agency representatives attend primarily to their agency's activities and interests; but when a situation appropriate for collaboration arises, they can readily adjust, share information, coordinate assets, and conduct joint problem solving. Thus, the intensity of linkages varies according to the situation. In examining the first three functional characteristics in Table 1, JHOCS would be categorized as a permanent coordination.

Functional Characteristic	**Type of Inter-organizational Institutional Innovation**		
	Permanent or regular coordination	**Coalition**	**Network structure**
Problem Orientation (shared vs. individual)	Both	Both	Shared
Commitment to Goals (common vs. separate)	Separate or Common	Separate or Common	Shared
Intensity of Linkages (loose vs. tight)	Weak to strong links; mutual interdependence	Strong links; mutual interdependence	Strong links; mutual interdependence
Breadth of Effort (narrow vs. comprehensive)	Narrow	Narrow	Comprehensive
Complexity of Purpose	Limited joint problem solving	Limited to complicated joint problem solving	Complicated joint problem solving
Scope of Effort (status quo vs. systems change)	Status quo	Status quo	Systems change

Table 1: Types of Inter-organizational Innovations and the Functional Characteristics (adapted from Mandell & Steelman, 2006, p.209)

The last three functional characteristics are more difficult to assess for JHOCs. It could be argued that because the participating organizations operate mostly independently, collaborating largely through information sharing, their breadth of effort is narrow. But, this may be one aspect of the typology that is too limiting. The JHOCs have important adaptability that allows them to broaden their focus and address complex issues. In fact, the ability to "surge" into more complex problem situations is one of the adaptive advantages of a JHOC. It is also inappropriate to claim that this innovation represents a status quo. When first initiated in 2003-2004, these were clearly

institutional innovations. Now they are expanding their capabilities in inter-organizational collaboration with new technologies and broadening participation. Perhaps the classification of JHOCs as a permanent coordination or coalition inter-organizational innovation is appropriate with the caveat that they have the capability to address both focused (narrow) and comprehensive challenges and have the potential to generate systems change. The latter is particularly evident in JHOCs that are pursuing innovative technologies to support collaboration, and in the establishment of the MUC in San Diego as a strategic extension of the more tactical and operational activities of the JHOC.

The MUC clearly represents a network structure. It was established as a collaborative, strategic planning mechanism to address shared problems and goals related to maritime security in the Port of San Diego area. It focuses on issues of mutual interdependence, emphasizing the tight linkages among participating organizations. The joint metrics system instituted by the MUC demonstrates these characteristics as well as the ongoing aspects of systems change. Additional evidence of systems change is the expansion of the MUC concept to neighboring regions.

Hamel (2006) argues that management innovations, like the inter-organizational institutions described here, can provide an important advantage in the industry (here maritime security) and also "produce a seismic shift in industry leadership" (p. 2). The shift in the industry is apparent in the passage of the SAFE (Security and Accountability for Every) Port Act of 2006. One of the major stipulations of this legislation is that interagency operations centers be established at all 22 high-risk ports (Pate et al. 2008). This requirement is based on the demonstrated success of the initial pilot JHOCs including Charleston and San Diego.

As noted in the introduction to this paper, Hamel describes management innovations as at least one of the three following characteristics: (1) challenges management orthodoxy, (2) is systemic in addressing a range of processes and methods, and (3) is part of an ongoing program of innovation "where progress compounds over time" (2006, p. 2). The descriptions of JHOCs and the San Diego MUC provide clear evidence of all three of these characteristics. According to Captain Steve Metruck, these interagency operations centers provide a mechanism to overcome "silos" but require a shift in organizational autonomy (2009) or what Hamel refers to as "management orthodoxy." The data presented throughout this paper describe many changes in processes and technologies. And, the evolution of the inter-organizational innovation from the tactical and operational focus of the JHOC to the strategic perspective of the unified command demonstrates the on-going nature of innovation in this important domain of maritime security.

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References

Anderson, T. (2006). Holding the Line: On a Typical Day at the U.S.-Mexico Border, Officers Arrest 3256 people for illegal entry and seize 5400 pounds of Narcotics. *Security Management*. 01 September 2006. http://www.securitymanagement.com/print/1587.

Atkins, V. (2010). Testimony of Rear Admiral Vincent Atkins, U.S. Coast Guard, before the House Subcommittee on Homeland Security, on Department of Homeland Security Air and Marine Operations and Investments. http://www.dhs.gov/ynews/testimony/testimony_1271690315007.shtm

Bird, A. (2008). Covering the Waterfront. *The Post and Courier*. August 11, 2008. http://www.postandcourier.com/news/2008/aug/11/covering_waterfront50322/

GAO (U.S. Government Accountability Office) (2009). *Interagency Collaboration: Key Issues for Congressional Oversight of National Security Strategies, Organizations, Workforce and Information Sharing,* GAO-09-904SP. http://www.gao.gov/new.items/d09904sp.pdf.

Hamel, G. (2006). The why, what, and how of management innovation. *Harvard Business Review,* February 2006. Reprint R0602C.

Hocevar, S.P., Thomas, G.F., Jansen, E. (2006). Building collaborative capacity: An Innovative strategy for homeland security preparedness. In Beyerlein, Beyerlein & Kennedy (Eds) *Advances in Interdisciplinary Studies of Work Teams: Innovation Through Collaboration,* Volume 12 (255-274). Elsevier JAI Press.

Khalifa, D.R. (2009). SeaHawk Milestone: DHS, Coast Guard Prepare to Move Forward with Port Security Command Centers. *Seapower*. June 2009: 36-38. http://localhost:51966/seapower/200906-offline2/index.html

Mandell, M.P. and Steelman, T.A. (2003). Understanding what can be accomplished through interorganizational innovations: The importance of typologies, context and management strategies. *Public Management Review*. 5(2): 197-224.

Metruck, S. (2004). San Diego Joint Harbor Operations Center (JHOC). NDIA Homeland Security Symposium. May 24, 2004. http://www.dtic.mil/ndia/2004homeland/2004homeland.html.

Metruck, S. (2009). Leveraging People and Technology to Optimize Interagency Interoperability. *USCG Proceedings*. Spring 2009. www.uscg.mil/proceedings

MUC (Maritime Unified Command) Briefing (2010). Briefing presented to U.S. Congressional Staffers. Coast Guard Headquarters, San Diego, CA. August 19, 2010.

Pate, A., Taylor, B., Kubu, B. (2008). *Protecting America's Ports: Promising Practices.* Document no 221075. Report submitted to Department of Justice. www.ncjrs.gov/pdffiles1/nij/grants/221075.pdf.

Watts, R.B. (2005). Maritime Critical Infrastructure Protection: Multi-Agency Command and Control in an Asymmetric Environment. *Homeland Security Affairs*, 1(2). http://www.hsaj.org/?fullarticle=1.2.3

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