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Clarity of Roles and Responsibilities in Government Cross-Boundary Information Sharing Initiatives: Identifying the Determinants

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Abstract: Research has shown that clarity of roles and responsibilities (CRR) influences the effectiveness and performance of individual organizations as well as cross-boundary or interorganizational group efforts. Role clarity increases job satisfaction, commitment, and involvement and reduces tension and anxiety among organizational members, which results in lower staff turnover rates in organizations. In addition, CRR has been found to enable other important determinants of success in cross-boundary information sharing (CBI), such as building trust among members of CBI initiatives. However, few studies attempt to understand the determinants of CRR in a CBI initiative. Using data from semi-structured interviews from eight U.S. state and local government public health and criminal justice information sharing cases, this paper seeks to fill this gap by examining these determinants. The analysis of the public health and criminal justice information sharing efforts supported the identification of a set of determinants of CRR. In general, these determinants involved different types of knowledge participants had or gained about each other through the course of the initiative; others involved participants' views on how their needs and concerns were being addressed by initiative participants and sponsors. Overall, this study contributes to the existing literature by identifying several of these determinants and explaining how they affect CRR in government CBI initiatives.

Keywords: Cross-boundary, information sharing, public sector, collaboration

1. Introduction

Governments are increasingly using collaborative, cross-boundary strategies as they organize to meet their responsibilities to citizens (Goldsmith and Eggers, 2004; Fountain, 2001; Pardo et al. 2008). The day-to-day operations of government as well as preparing to respond to crises and emerging threats are all increasingly being carried out in collaborative ways across the boundaries of organizations. Many of these cross-boundary strategies have at their core the use of information and communication technologies. Government managers and researchers alike are now recognizing the value and opportunities offered by cross-boundary information sharing (CBI). Current research has identified important factors that affect government efforts to improve information sharing through their investment in various CBI initiatives. One of these factors is the clarity of roles and responsibilities (CRR) of key organizations participating in such initiatives.

Research has shown that CRR influences the effectiveness and performance of both organizational and interorganizational or cross-boundary group efforts. Focusing on the organizational level, Jackson and Schuler (1985) find that role clarity increases job satisfaction, commitment, and involvement and reduces tension and anxiety among organizational members, which has positive benefits including a reduction of staff turnover rates. At the interorganizational level, Pardo et al. (2006) have shown that CRR enables other important determinants of success in cross-boundary information sharing, such as building trust among members of CBI initiatives. While research has demonstrated the importance of this clarity in CBI initiatives, few studies have attempted to systematically understand the determinants of CRR among participating organizations in government CBI initiatives.

This paper begins to fill this gap by focusing on a selected set of determinants of CRR. In general, these determinants of CRR are related to the different types of knowledge participants had or gained about each other's organization through the course of the initiative and to participants' views on how their needs and concerns were being addressed by initiative participants and sponsors. Overall, this study contributes to the existing literature by addressing several of these determinants in terms of how they affect CRR in government CBI initiatives.

1.1 The influence of clarity of roles and responsibilities on interorganizational collaborations

CRR has been found to be an important factor in interorganizational collaboration. Clear roles and responsibilities decrease ambiguity and complexity, which are primary characteristics of any collaboration (Sarkar et al.1998; Huxham and Vangen 2000; Vangen and Huxham 2003). At the beginning of such a collaboration, members from each participating organization work to understand their roles and to understand expectations of other organizations (Kegerise 1999; Wakerman and Mitchell 2005). CRR among participating organizations in the governmental context has been found to help achieve these collaborative goals by reducing uncertainty and facilitating trust building among the members of CBI initiatives (Pardo et al. 2006). CRR also been found to reduce stress, and positively affects relational bonding among participants, thus increasing work effectiveness (Sarkar et al. 1998). As discussed in the literature, CRR across the boundaries of participating organizations influences interorganizational collaborations, such as government CBI initiatives (see Figure 1).

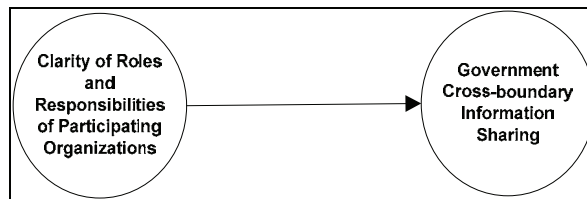


Figure 1: Clarity of roles and responsibilities of participating organizations influences government cross-boundary information sharing

While research seems to support the claim that CRR among organizations participating in a collaborative effort—such as government CBI initiatives—is an important factor in those initiatives, much less research has been devoted to the study of the determinants of CRR at the interorganizational level. To help fill this gap the next section will provide a summary of the determinants of CRR identified in the literature followed by an introduction of three additional determinants selected from recent research conducted by the authors of this paper.

1.2 Determinants of clarity of roles and responsibilities

The majority of studies described in the literature focus on the formalization of rules and procedures and regular and effective communication among participating organizations as determinants of CRR for the participating organizations in an interorganizational collaboration. Kegerise (1999) states that regular meetings, implementation plans, and formal agreements are necessary in order to establish and maintain clear roles and responsibilities in collaborations. Moreover, Nidumolu (1995) finds that formalization of rules and procedures for interactions is a crucial factor in the success of interorganizational information systems because it brings clarity to roles and responsibilities. Similarly, Walkerman and Mitchell (2005) argue that roles of participating stakeholders should be clearly defined at the initiation of a collaborative effort in order to prevent power conflicts between participants.

Other studies focus on the formalization of communication as a strategy for preventing ambiguity in roles and responsibilities. Buono (1997) speaks to the criticality of interorganizational communication in communicating roles and responsibilities clearly. Casey (2008) goes a bit further and calls for coordination between partner organizations in order to prevent ambiguity in roles and responsibilities. Thompson et al. (2009) seem to concur with this need for more clear coordination and go further arguing that rather than relational contacts, routinized communication channels are important to achieve CRR in collaborative efforts.

Other studies such as Luna-Reyes et al. (2008) focus on the experiential aspect of the process stating that when participants of an interorganizational initiative begin to work together, they learn each other's roles, objectives and constraints. Hardy et al. (2005) approach collaboration from a discursive perspective, stating that members of a collaborative initiative define their roles and responsibilities through intensive conversation among participants. In addition, in a study of factors that affect role ambiguity and role conflict of top-level public administrators, Rogers and Molnar (1976) found that the more interactions public administrators had with other organizations at the interorganizational level, the less role ambiguity and role conflict they experienced.

While past studies acknowledge the influence of determinants of CRR—such as formalizing of rules and procedures and establishing regular and effective communication among participating organizations—they are not focused on the context of public sector organizations nor in particular on the role of information and information technologies in that context. As a result, the studies discussed above, while providing a foundation for understanding the role of CRR, do not address the factors nor the determinants of those factors that influence government CBI initiatives. As stated above to begin to fill this gap, this paper focuses specifically on CRR as one of the key factors influencing government cross-boundary information sharing and introduces three of the determinants of CRR identified in the model: exercise of authority, diversity of participating organizations and their goals, and past experiences.

2. Research methods

The research project, titled “Modeling the Social and Technical Processes of Interorganizational Information Integration,” was conducted by the Center for Technology in Government with partial support from the National Science Foundation. The research was focused on creating and testing a model of the social and technical interactions in interorganizational information sharing across the boundaries of government agencies and across levels of government. The project involved eight separate case studies of CBI in the criminal justice and public health policy areas. In the public health arena, the research focused on the creation of CBI capabilities as part of state and local government responses to West Nile virus (WNV) outbreaks in four states. In the criminal justice arena, research focused on one county and two state level CBI initiatives to share criminal justice related information.

The study employed a multi-method research approach: a powerful way to examine complex social phenomenon, especially those which are not yet well understood (Mingers, 2001 and 2003). A sequential exploratory research design was selected for the project, in which qualitative data collection and analysis were followed by quantitative data collection and analysis, with the objective that the quantitative analysis would be used to test theory that emerged from the qualitative findings (Gil-Garcia and Pardo 2006). This paper draws only on the qualitative data collected through the interviews and then analyzed following a systematic and rigorous qualitative analysis process using grounded theory techniques (Glaser 1992; Glaser and Strauss 1967; Strauss and Corbin 1998). Through this process the research team identified critical factors and processes involved in sharing information across levels and agencies in government and across organizations from different sectors. One of the factors that emerged was CRR. In addition a set of determinants of CRR were identified as well.

3. Analysis and results

As noted above, this paper focuses on three of the determinants of CRR: the exercise of authority, diversity of participating organizations and their goals, and past experiences. Each determinant will be introduced and discussed together with selected quotes drawn from the data to illustrate the influence relationships. The discussion of each determinant concludes with a proposition for future testing about the relationship between the determinant and the process of clarifying roles and responsibilities.

3.1 Exercise of authority

How authority was exercised during in the cases was considered by the participants to be very influential on the clarity of roles and responsibilities of participating organizations. Due to the intergovernmental nature of the initiatives, the relative power and authority relationships of each government varied across the states. The public health domain exemplifies this variety. In some states the local health departments act independently of the state, in others they are more like regional offices of the state health department. In no case did the public health department have authority over related agencies such as animal or environmental health agencies. In one of the public health cases in this study, the state department of health had the authority to determine internal roles and responsibilities regarding sharing case data. However, it had no authority to mandate the roles and responsibilities of the animal and environmental health agencies nor the local government health departments. Yet information sharing across the boundaries of these organizations was central to the response efforts.

The same general scenario applies to the criminal justice arena as well. For example, a state-level police organization certainly has authority over its various units and can mandate how information is shared across those units. However, that agency has very limited, if any, authority over other key

criminal justice entities, such as corrections and parole, both at the state and local levels. The data consistently shows how initiative leaders leveraged the limited authority they had and complemented it with a collaborative style of engagement with the other organizations involved, which influenced CRR of the participating organizations. As well, the data includes many stories of failed attempts where initiative leaders had attempted to assume authority and acted on those assumptions.

In one state, the public health expert responsible for developing the cross-boundary information capability needed for the state's WNV response efforts discussed how he addressed the challenge of limited authority. While his agency—the state's public health department—was responsible for assessing the risk posed by the virus, drawing on data localities were required to provide to the state, it lacked the authority to specifically mandate how other participating organizations, including almost 3,000 local government entities, would share information amongst themselves. He had no authority to disseminate the data broadly to localities nor to tell the localities how to disseminate it themselves. Recognizing this limited authority and the risk in assuming authority on this issue, he worked with local authorities to create a coordinated communication plan. This plan, a novel approach in the state, clarified roles and responsibilities between the state and the numerous local government entities regarding the sharing of information. One specific contact within each local government to whom he would disseminate the relevant WNV information was identified. How the localities managed distribution among those entities was now clearly outside the responsibilities of the state level person. The state level representative avoided the assumption of responsibility for disseminating data to the various local level stakeholders and facilitated the identification of a contact point for local government representatives who were interested in accessing the information to work with their designated point of contact:

“And I would say, well, your county point of contact is—their name, their number and their e-mail address—this is where this information is going. You need to get in touch with them, introduce yourself and get on their distribution list so that when the county gets this information, they'll know that you're an interested party that wants that information sent to them. ...And I'm still amazed that agencies that, you know, and it happens at the federal and the state level and even at the county level. It's like, oh, well, we sent it to the environmental health folks and the public health nurses and we didn't hear about it. Well, talk to your environmental health folks. Well, who are they? Well, these are the guys who inspect the restaurants and go out and collect—oh, yeah, yeah. Well, we don't usually talk to them. Well, you ought to, you know. Go introduce yourself, get on their list so that you get this information.”

The criminal justice cases provide an example of a similarly novel approach to clarifying roles and responsibilities. A state level criminal justice agency chief information officer who had worked on a statewide criminal justice information sharing initiative discussed a strategy for maximizing limited authority over multiple state agencies to help clarify roles and responsibilities among participants of a CBI initiative.

“The FBI [United States Federal Bureau of Investigation] or the DOJ [United States Department of Justice] federal government is the Wal-Mart. And they're basically saying, O.K. this is what you've got to do. If you want to communicate with NCIC [National Criminal Information Center], you've got to give us this particular format and then you've got x number of years to get it done... And I think that by the Department of Justice doing that, it's much quicker, and a much faster bring-to-market. It's going to get Justice information sharing more global for us.”

In both examples, actors used a variety of mechanisms to create clarity of roles and responsibilities that did not involve overstating or overacting on a level of accepted authority. The public health case highlights how coordination of communication was selected as an alternative to the over assumption of authority as the strategy for creating new clarity about information sharing roles and responsibilities. The criminal justice cases highlights how a state overcame the limits of authority in terms of dictating strategies for data collection and disseminations to other state agencies and localities. This was achieved by leveraging the authority of the federal government, which had required that in order to communicate with their federal level criminal justice information sharing system, all information must comply with a particular standard (e.g., XML). By mandating the standard, participating organizations were compelled to work together to clarify their roles and responsibilities in the implementation of this standard.

Proposition 1: Exercise of authority by participating organizations affects clarity of roles and responsibilities in cross-boundary information sharing initiatives.

3.2 Diversity of participating organizations and their goals

The diversity of the key participating organizations and their goals was found to be an important determinant of CRR within the CBI initiatives. In some cases acknowledging and acting on those differences helped create CRR, in other cases the opposite occurred. Throughout the interviews, initiative leaders discussed how being sensitive to the diversity of goals and interests among the participating organizations helped them successfully delineate roles and responsibilities that organizations were comfortable with and that supported the intended goals of the initiatives. They also commented on how this diversity, if not dealt with, had, in their experiences, negatively impacted efforts to achieve the necessary clarity.

In one state the diversity between agencies like the state police and corrections and other less “front-line” criminal justice agencies had a significant influence on the process of clarifying roles and responsibilities for information sharing. According to one senior IT manager from a state police organization:

“Here at state police the culture is very focused on quick action. We're operational; it's a very tactical organization. At any given moment our workers, our troopers, our investigators are out there in harm's way putting themselves at risk. ...And then all of a sudden we're now looking at this idea that we're going to start coming together with other organizations that are culturally different from us. The concern I hear the most from people that work in these organizations is how is that going to work? ...And when the folks and agencies are operational in nature, they think that there's a possibility that ... [a] non-operational agency [could] rise to the top and take over stuff and they get really nervous.”

In the WNV related case studies, the diversity among state level animal and human health agencies and research institutions involved in the CBI initiatives was found to influence the CRR. Research oriented organizations in the form of universities and other institutions, played very important roles in the response efforts. However, one state level public health epidemiologist charged with developing a new disease surveillance capability for WNV in the state commented that these organizations were initially very cautious about sharing their research data with public health officials due to the simple fact that these organizations must be able to publish and take credit for their discoveries. Data once in the hands of a public entity, in general, becomes public information. He explains the impact this requirement had on the need to and the process of clarifying roles and responsibilities:

“For instance, we need to recognize that [a state university and another research institution], unlike the state laboratory, are research organizations. And if we ask them to do work for us, we have to recognize their needs to maintain a certain control over some of the data, for instance. So there's negotiation over the detail of data to be shared and how it will be disseminated. So, all of those are also important issues that sometimes go unrecognized.”

In both of these instances the diversity of participating organizations was clearly a important determinant of clarity of roles and responsibilities in the CBI initiatives. In the first, it was the difference between organizations where the safety of a police or corrections officer is closely linked to timely and accurate information sharing versus other organizations where information needs—even when the agency is in the same domain, as in these cases. In the second, the diversity of goals required a negotiation among participating organizations and a clarification of roles and responsibilities that addressed not only the goals of each of these organizations but the goal of CBI initiative itself.

Proposition 2: The diversity of participating organizations and their goals affects clarity of roles and responsibilities in cross-boundary information sharing initiatives.

3.3 Past experiences

According to the interviewees, past experiences of the participating organizations, either in working on the specific initiative under discussion or collaborating on a previous cross-boundary information sharing initiative, had both positive and negative influences on the CRR. In some cases, past dealings and interactions appeared to exacerbate the sense of divergent and sometimes conflicting agency

missions and goals. These past experiences made the process of clarifying roles and responsibilities within the context of the current initiative both more difficult and important. In other cases, participants who had worked on previous CBI initiatives, even if they were not successful, felt that they were able to apply positive experiences to future initiatives where CRR was important.

A state level wildlife expert who played a key role in the CBI initiative in support of that state's response to the WNV provided an illustration of the influence of past experiences on CRR. Commenting on past experiences working with another agency, this individual commented rather frankly on how he initially approached the collaboration: "The [state] health department is huge. The only people left [in my department] is pathology. So, I've seen turf lost; I've seen people gone. ...So therefore you have to be up to defend your intellectual license for what you have discovered and what you can do. So, I was out to do that, not lose any territory, not see it taken to health [the state health department]."

This individual went on to add that while his initial goal was to sell his unit's value and maintain or even increase its resources, he felt less of a threat to his organization's goals and interests as he continued meeting with other participating organizations involved in clarifying roles and responsibilities for the initiative. The quality of the experience of meeting with his colleagues was positive and reinforcing. He explains, "Pretty quickly everything fell in line... [T]he animal virus lab is going to do this, get the birds, identify the birds, get the tissues, order the tests that need to be put out there... We're all going to work together and integrate the information largely through the [state's health information network]."

A second states' response to the WNV outbreak provides further illustration of the influence of past experience on CRR. An animal disease expert in charge of developing the state's surveillance capability for the newly discovered virus talked about how the necessary roles and responsibilities of the state and local agencies participating in the response were very similar to those established for a disease outbreak several years before:

"This was very fortuitous, actually, that we had the Eastern equine encephalitis [outbreak in 1996]. ...[T]hanks to having that committee and having had to work together to put together a state plan for responding to the Eastern equine encephalitis, we were well positioned, at least from the point of view of organization, inter-agency organization, to respond to West Nile. It was easy to identify who had to be as part of the working group and responsibilities were pretty, flowed pretty easily from that point as well. We already understood the roles that each of us would play...."

While the earlier disease outbreak—Eastern equine encephalitis—was smaller in scale (number of cases and locations) and scope (no known human and bird cases), it did require significant CBI among state animal and health agencies as well as between state and local governments. Those past experiences of working together, were acknowledged by participants to have influenced the CRR related to CBI as part of the response to the WNV. In both instances it is clear that organizations and the individuals representing them bring both negative and positive past experiences to new collaborative efforts; and these past experiences influence CRR.

Proposition 3: Past experiences with participating organizations affect the clarity of roles and responsibilities in cross-boundary information sharing initiatives.

4. In conclusion

As noted above, previous research has shown CRR to be a critical factor in the success of government cross-boundary information sharing initiatives. The lack of clarity about roles and responsibilities of participating organizations has been found to create dissatisfaction and resentment among participants in interorganizational collaborations. This study contributes to this body of research with a particular attention to the understanding of CRR as a critical factor in the success of CBI initiatives in the context of government as well as the determinants in that context of CRR. Figure 2 illustrates the three additional determinants identified in this paper and which serve as the foundation of the propositions presented above. The propositions draw out the core relationships found in the larger model and are available for further testing.

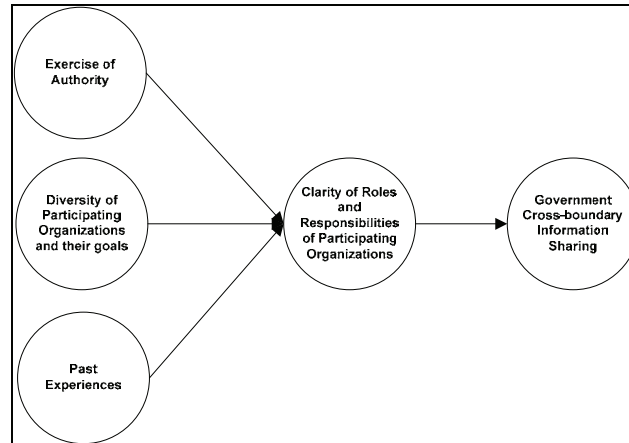


Figure 2: Determinants of clarity of roles and responsibilities of participating organizations in government cross-boundary information sharing initiatives

Understanding the larger set determinants of CRR in government cross-boundary information sharing is theoretically and practically relevant. Theoretically, there are very few studies that attempt to systematically identify the determinants of CRR and that therefore indirectly affect the success of government information sharing initiatives. This study begins to fill this knowledge gap in an important manner by both developing a novel approach to building and studying models of interactions in this context, but also in identifying some of the determinants of CRR. In practical terms, creating new understanding of the determinants of CRR has value for public managers and their leadership as they must increasingly collaborate and share information across the boundaries of organizations in the process of meeting their responsibilities to citizens.

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References

- Amir, V. and Auslander, G.K. (2003) Inter-Organizational Collaboration among Social Workers: The Case of Community Mental Health Centers and Local Social Service Departments in Israel, BASW.
- Ansell, C. and Gash, A. (2008) "Collaborative Governance in Theory and Practice" *Journal of Public Administration Research and Theory*, Vol 18 No.4, pp 543-571.
- Armistead, C. and Pettigrew, P. (2004) "Effective Partnerships: Building a Sub-Regional Network of Reflective Practitioners" *International Journal of Public Sector Management*, Vol 17, No.7, pp 571-585.
- Buono, A.F. (1997) "Enhancing Strategic Partnerships: Intervening in Network Organizations" *Journal of Organizational Change Management*, Vol 10 No.3, pp 251 - 266.
- Casey, M. (2008) "Partnership--Success Factors of Interorganizational Relationships" *Journal of Nursing Management*, Vol 16 No.1, 72-83.
- Fountain, J. E. (2001). *Building the virtual state: Information technology and institutional change*. Washington, D.C.: Brookings Institution Press.
- Gil-García, J. R. and Pardo, T. A. (2006) Multi-Method Approaches to Digital Government Research: Value Lessons and Implementation Challenges. Proceedings of the 39th Hawaii International Conference on System Sciences.
- Glaser, B. G. (1992) *Basics of Grounded Theory Analysis: Emergence vs. Forcing*, Sociology Press, Mill Valley, CA.
- Glaser, B. G. and Strauss, A. L. (1967) *Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine Transaction, Chicago, IL.
- Goldsmith, S. and Eggers, W.D. (2004) *Governing by network : The new shape of the public sector*. Washington D.C.: Brookings Institution Press.
- Hardy, C., Lawrence, T.B. and Grant, D. (2005) "Discourse and collaboration: The role of conversations and collective identity" *The Academy of Management Review*, Vol 30 No.1, pp 58-77.
- Huxham, C. and Vaugen, S. (2000) "Ambiguity, Complexity and Dynamics in the Membership of Collaboration" *Human Relations*, Vol 53 No.6, pp 771-806.
- Jackson, S.E. and Schuler, R.S. (1985) "A Meta-Analysis and Conceptual Critique of Research on Role Ambiguity and Role Conflict in Work Settings" *Organizational Behavior and Human Decision Processes*, Vol 36 No.1, pp 16-78.

- Kegerise, K.E., (1999) "Keys to Successful Collaboration" Special Report. University of Pittsburgh Office of Child Development, pp.1-4.
- Luna-Reyes, L.F., Black, L.J., Cresswell, A. M. and Pardo, T. A. (2008) "Knowledge Sharing and Trust in Collaborative Requirements Analysis" *System Dynamics Review*, Vol 24 No.3, pp 265-297.
- Mingers, J. (2001) "Combining IS Research Methods: Towards a Pluralist Methodology", *Information Systems Research*, Vol 12 No.4, pp 240-259.
- Mingers, J. (2003) "The Paucity of Multimethod Research: A Review of the Information Systems Literature", *Information Systems Journal*, Vol 13 No. 3, pp.233-250.
- Nidumolu, S.R. (1995) "Interorganizational Information Systems and the Structure and Climate of Seller-Buyer Relationships" *Information & Management*, Vol 28 No. 2, pp 89-105.
- Pardo, T. A., Gil-García, J. R., and Burke, G. B. (2008) "Sustainable Cross-Boundary Information Sharing", In H. Chen et al. (Eds.), *Digital Government: E-Government Research, Case Studies, and Implementation* (pp. 421-438), Springer, New York.
- Pardo, T.A., Gil-García, J. R., and Burke, G. B. (2006) "Building Response Capacity through Cross-boundary Information Sharing: The Critical Role of Trust" In *Exploiting the Knowledge Economy: Issues, Applications, Case Studies*, Paul Cunningham and Miriam Cunningham (Eds), IOS Press, Amsterdam.
- Pardo, T., Gil-García, J.R. and Luna-Reyes, L.F. (2008) 'Collaborative Governance and Cross-Boundary Information Sharing: Envisioning a Networked and IT-Enabled Public Administration' Paper presented at the Minnowbrook III Conference, Lake Placid, New York, September 5-7.
- Rogers, D.L. and Molnar, J. (1976) "Organizational Antecedents of Role Conflict and Ambiguity in Top-Level Administrators" *Administrative Science Quarterly*, Vol 21 No. 4 pp 598-610.
- Sarkar, M., Aulakh, P.S. and Cavusgil, S.T. (1998) "The Strategic Role of Relational Bonding in Interorganizational Collaborations: An Empirical Study of the Global Construction Industry" *Journal of International Management*, Vol 4 No.2, pp 85-107.
- Strauss, A. and Corbin, J. (1998) *Basics of qualitative research*. Sage Publications, Thousands Oaks, CA.
- Thompson, A.M., Perry, J.L., and Miller, T.K. (2009) "Conceptualizing and Measuring Collaboration" *The Journal of Public Administration Research and Theory*, Vol 19, pp 23-56.
- Vangen, S. and Huxham, C. (2003) "Nurturing Collaborative Relations: Building Trust in Interorganizational Collaboration" *The Journal of Applied Behavioral Science*, Vol 39 No 1, pp 5-31.
- Walkerman, J. and Mitchell, J. (2005) "Intersectoral Collaboration: What are the Factors That Contribute to Success" *Desert Knowledge Cooperative Research Centre Report*.
- Ziegler, K., Ylitalo, J. and Mäki, E. (2004) Communication in Interorganizational Collaboration: A Case Study. *Frontiers of e-Business Research (FeBR)*.