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Bridging Boundaries in Networked Military Organizations

Topics: (2) Networks and Networking, (3) Information Sharing and Collaboration Processes, and Behaviors, & (4) Collective Endeavors

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Abstract. One of the challenges facing networked military organizations is to coordinate and integrate activities of organization components. Several studies have demonstrated the importance of boundary spanning as integrative mechanism, and, more specifically, individual communication roles within organizations. Boundary spanners are considered to be highly influential in shaping and facilitating network form. Boundary spanners act as brokers who can bridge and help overcome information asymmetries and breakdowns in organizational networks. This paper provides a review of the literature to discover the mechanisms for effective boundary spanning. Looking at how civilian organizations span boundaries provides some fundamental principles that can also be applied to the military. Moreover, findings are presented from two field studies to pinpoint the antecedents, behaviors, and consequences of boundary spanning in international headquarters. Our study shows that choosing the right people to work in a networked setting is of great importance to effective boundary spanning. Boundary spanners have to be sociable persons for a necessary part of their activities involves building and sustaining effective personal relationships. This paper has implications for the staffing, training, and design of networked military organizations and the information systems engineered to support networked operations.

INTRODUCTION

Military organizations must import and export information and resources. Hence, there is an obvious need to interact with outsiders to manage this process (cf. Ancona & Caldwell, 1988). Boundary spanning is a deliberate strategy by a group or organization to communicate frequently with outsiders in order to promote the group or organization, secure resources, and protect the group from interference (Ancona & Caldwell, 1992; Golden & Veiga, 2005). Several studies have demonstrated the importance of boundary spanning, and, more specifically, individual communication roles within organizations, including boundary spanners such as liaison officers (Ancona & Caldwell, 1992; Gladstein, 1984; Marrone, Tesluk, & Carson, 2007; Stock, 2006; Willem, Buelens, & Scarbrough, 2006; Williams, 2002).

Boundary spanning is especially beneficial for organizations that: (1) work in relatively uncertain and demanding environments with diverse components, (2) have high interdependency with outside individuals and groups, and (3) experience high task complexity (Marrone et al., 2007; Ancona, 1990; Choi, 2002). Ancona and Caldwell (1988) add to these that especially the combination of high interdependency, high uncertainty, and multiple forms of interdependence with multiple groups ask for boundary spanning activities. Given the high likeness of the above characteristics with military operations in general and networked operations in particular, it may well be that boundary spanning is a key enabler to achieve successful results. To our knowledge, however, it has not been discussed much in the networked operations literature. The purpose of this paper is to discuss the possibilities for managing boundaries in networked operations to bridge breakdowns in organization networks that hinder performance.

First, this paper defines boundary spanning and discusses mechanisms for coordinating actions across groups or organizations. These mechanisms are often called integrative mechanisms (cf. Browning, 1998). Integrative mechanisms facilitate information flow across communication barriers. Further, this paper provides a theoretical framework based on the general literature to help identify the antecedents and consequences of boundary spanning. Looking at how civilian organizations span boundaries provides some fundamental principles that can also be applied to the military. Business, civilian, and military organizations share the problem of coordinating their internal activities with the external environment (McGrady, 2001). Military units, for example, need information about: threat

forces, friendly forces, the environment, weather, terrain, etc. Intelligence and weather units as well as other organizations in military units have formal responsibilities for collecting, processing, and disseminating this information. However, it is not entirely clear whether civilian organizations deal with the boundary spanning problem in ways that are similar to the military. To be able to generalise our findings to military practice it is important that we validate the research model in a relevant military setting.

The third part of this paper presents findings from two field studies that examine how military liaison officers facilitate integration within staffs during international headquarters exercises. The purpose of these field studies was to validate our theoretical framework and to identify the antecedents, behaviors, and consequences of boundary spanning in networked operations. As such, this paper has implications for the staffing, training, and design of networked military organizations and the information systems engineered to support networked operations.

Boundary Spanning: How Organizations Manage their External Relations

Boundary theory assumes that organizations depend on their environment for critical resource inputs, as well as for the disposal of their outputs (Aldrich & Herker, 1977; Stock, 2006). From this perspective, a central challenge for organizations is to manage their boundaries with other organizations. However, there are many barriers to successful integration. One recurrent barrier to integration is the different cultures that may be observed in a single organization (Adamsson, 2007, p. 19). In the face of difficulties understanding each other's objectives and motivations, self-contained societies may develop in organizations, giving rise to miscommunication. Moreover, as self-contained societies develop, language barriers will arise as a consequence (Griffin & Hauser, 1996). Departments within organizations often develop their own set of terms and taxonomy. This of course seriously threatens effective communication, since differences may arise in interpreting and describing the same problem.

Cross, Cowen, Vertucci, and Thomas (2009) argue that breakdowns in organizational networks are generally to be found across four aspects of organizational structure that almost always divide networks at points that affect performance:

1. Functional or divisional boundaries;
2. Physical distance (even floors in a building);
3. Hierarchical levels; and
4. Project or key account team lines.

Organizations engage in boundary spanning behaviors, such as negotiations, contracting, and cooperation building, to manage their interactions across boundaries and bridge breakdowns.

Ancona and Caldwell (1988) found that boundary management can be undertaken by one individual or by many different people at the same time. Boundary theory emphasizes the crucial role of individuals in establishing and maintaining interorganizational relationships. Based on interview data and reported interactions with outsiders Ancona and Caldwell (1988) were able to identify three individuals who perform boundary activities: the immigrant, captive, and emigrant. The immigrant is an outsider who is induced to join the group voluntarily. Motivations to join may vary from needing another job, to wanting to work with a particular set of people or on a particular technology. The captive, in contrast, is assigned to the group, often despite a desire to be elsewhere. Finally, the emigrant is one who leaves to team in order to represent it to outsiders. The emigrant has strong similarities with military liaison officers.

Aldrich and Herker (1977) have introduced the term boundary spanner for individuals performing boundary spanning activities within an organization or group. People who manage across boundaries are described by Thompson (1976) as networker, broker, collaborator, cupid, civic entrepreneur, boundroid, sparkplug, and collabronaut. Williams (2002, p. 108) add to these the terms informational intermediaries and catalysts. Boundary spanners are considered to be highly influential in shaping and facilitating network form because they act as brokers who can bridge and help overcome information asymmetries. Moreover, boundary spanners can be seen as the glue between social groups or as neutral arbitrators in conflict resolution, while at the same time they foster cooperation and information exchange and reduce communication costs (Williams, 2002). In this paper, we will use the term boundary spanners when referring to those employees who play multiple roles at the interface of military organization components.

Drawing on Ancona and Caldwell's (1988, 1992) work, Choi (2002) defined external activities as activities that are directed toward the team's environment to manage its relationships with external actors, including other units within the same organization, other organizations, and the general public. This definition encompasses a broad range of team activities, including both superficial external contacts, such as environmental scanning, and intensive interactions, such as contractual negotiation or task coordination, which target diverse external actors such as other teams or departments, senior managers, and customer or supplier organizations.

In contrast, internal activities refer according to Choi (2002) to various intragroup processes occurring within the organization component, such as forming and enforcing group norms, communication among members, the use of internal resources, and group decision-making processes. If every team needs to conduct both internal and external activities, how are the two activities related to each other? According to Choi (2002) both internal and external activities act as opposing processes each competing for limiting group resources. Given that a team has only limited resources (e.g., time, effort, personnel), conducting either internal or external activities may reduce resources available for the other. This trade-off relationship forces organizational teams to allocate their resources between internal and external activities.

Group effectiveness may be higher when a group allocates its resources in such a way that it strikes a balance between internal and external activities than when it pours its resources into one type of activity while neglecting the other (Choi, 2002). Nevertheless, groups that strike a good balance or shift emphasis between internal and external activities seem to be more effective in general than groups that stick to either one of the two activities (see also Ancona & Caldwell, 1988). According to Ancona and Caldwell (1988), early in the new product developmental process, groups often need a high degree of external activities in order to determine task requirements and obtain resources. Once requirements have been determined and resources obtained, groups need to concentrate more on internal activities, such as technical problem solving. The earlier task-relevant information is exchanged, the more likely the modules of the different teams will fit together in the end without the need for rework (Hoegl, Weinkauf, & Gemuenden, 2004; see also Hoegl & Weinkauf, 2005).

Mechanisms for Boundary Spanning

Browning (1998) and Adamsson (2007) categorize and explore several integrative mechanisms (IMs). Browning defines IMs as strategies and tools for effectively coordinating actions across groups or organizations. As catalysts, they facilitate information flow across communication barriers, such as a company's organization structure, incentive systems, location, leadership styles, cultural differences, and management traditions. IMs must also regulate information flow such that it does not overwhelm or underwhelm its recipients.

Browning (1998) divides IM into two groups:

1. Integration enablers—IMs which provide for the establishment of integration, such as appropriate and adequate organizational information and communication systems, collocation, and training (cf. Mortensen, Woolley, & O'Leary, 2007); and
2. Integration maintainers—IMs which monitor and facilitate ongoing integration, such as integration teams and manager mediation.

Together, all the IMs provide an organization integration "tool kit." Given that boundary spanning includes a range of externally directed actions; the work Browning (1998) and Mortensen et al. (2007) fit into the boundary management literature. What they add is the differentiation in levels of boundary spanning (e.g., managers and participants) and in categorizing boundary management (e.g., interface management and conflict resolution). Also they emphasize the role of information and communication technologies as enabler or facilitator of the information-gathering function, as team members seek, interpret, and communicate with external contacts (e.g., Hansen, 1999). Training, group meetings, score cards, and work rotation are examples of structural elements that supplement the behavioral orientation of the boundary spanning literature. It remains unclear, however, which of them are most effective in networked operations. We are of opinion that especially in networked operations integration maintainers are of crucial importance to effective integration. In the remainder of this paper we focus on one special type of integration maintainer; the military liaison officer or LNO in short.

THE COMPETENT LIAISON OFFICER: LITERATURE REVIEW

Based on a review of the literature, we identified several antecedents, as well as consequences of boundary spanning that define the competent LNO. These are discussed in the following subsections. It should be noted, however, that in this paper focuses only on individual level antecedents and consequences. Those at the group and organizational level and involving leadership are left out purposely.

Antecedents of Boundary Spanning Behavior

Several factors are described in the literature differentiating between individuals taking on high levels of boundary activity and those who were more internally oriented. For example, individuals high on self-efficacy, feeling confident that they successfully can establish and manage relationships with external parties external to the group or organization in conjunction

with their other group work and task responsibilities, show more boundary spanning behavior (Marrone et al., 2007). Below, we will discuss several other important antecedents.

Researchers have found that an important antecedent of boundary spanning comes in the form of trust, reciprocity, and mutual understanding between professionals, located in different organizations, within the network (Currie, Finn, & Martin, 2008; Perrone, Zaheer, & McEvily, 2003; Mortensen et al., 2007; Willem et al., 2006). For example, Perrone et al. (2003) found that, in a buyer-supplier context, granting purchasing managers greater role autonomy (i.e., being free from constraints that limit the ability to interpret boundary-spanning roles) enhanced supplier representative trust in purchasing managers.

Trust is important because it supports the building of interpersonal relationships, functional interactions, communication, coordination, and cooperation in networks, and reduces the costs of monitoring and controlling (Aubert & Kelsey, 2003; Priest, Stagl, Klein, & Salas, 2006; Van der Kleij, 2007; Wilson, Straus, & McEvily, 2006). In general, trust develops through repeated social interactions that enable people to update their information about others' trustworthiness (Krebs, Hobman, & Bordia, 2006).

Trust is essential to the loose coupling that allows networks to work, but dense relations and the ability to observe each other are often assumed a necessary ingredient for trust to develop and shattered trust to be repaired. This represents a critical paradox for networks. If members of groups or organizations within networks are going to engage in boundary spanning activities, trust is needed. But for trust to develop group or organization members need to be in proximity of each other, for instance to observe the amount of effort others are expending, activities that are much easier to accomplish within groups or organizations than between them.

Choosing the right people to work in a networked setting is critical according to Mortensen et al. (2007). A necessary part of boundary spanning involves building and sustaining effective personal relationships (Williams, 2002). As such, the value of basic and effective oral, written and presentational communication skills cannot be overestimated. Also, understanding, empathizing and resolving conflict are skills needed by competent boundary spanners (Williams, 2002). Moreover, competent boundary spanners appear to be those with an easy and inviting personality, particularly those who are able to dissociate themselves from their organizational and professional baggage.

Finally, information and communications systems provide important tools for facilitating boundary spanning activities (Mortensen et al., 2007; see also Browning, 1998). Mortensen et al. showed that being able to work on multiple projects simultaneously greatly

reduced the switching costs associated with physically moving to separate locations for different projects. Moreover, it also helped people coordinate with one another when working at different locations for different projects.

Consequences of Boundary Spanning

Boundary spanning behaviors have both positive and negative consequences, for example, for the individual who carries them out. These consequences can be expressed in terms of performance (i.e., the quality, quantity end user satisfaction with, for example, a group's output) and viability (i.e., the ability to function interpedently in the future).

At the individual level, boundary spanners are exposed to multiple perspectives, languages, and ideas, entailing frequent interpersonal interaction and conflict. A study of Ancona and Caldwell (1988) revealed that such situations may create stress. Interviewees reported high levels of stress attributable to the multiple loyalties created by the interactions and the high personal cost of protecting the team from outside pressure. Currie et al. (2008) also point out the dark side of new organizational forms. The development of new boundary spanning roles is associated with significant work and employment relation challenges. For example, Currie et al. found that healthcare professionals in organizational and professional boundary-spanning positions experience uncertainty, ambiguity and frustration in their attempts to enact their novel roles. However, at the same time, Ancona and Caldwell (1988) found that high levels of external activity provide exposure to information and career opportunities that can increase the spanner's power and probability of advancement. Moreover, those who carry out boundary spanning responsibilities gain status and influence through access to unique knowledge (Marrone et al., 2007). In the following subsections, we will discuss two negative consequences of boundary spanning that seem relevant to the practice of liaison officers into more detail.

Role overload. Marrone et al. (2007) discuss a potential paradox of boundary spanning: Teams engaging in boundary spanning activities may more effectively manage their external environment in ways that aid performance. However, in doing so team members may experience significant role overload as a result of facing simultaneous and often conflicting pressures that could harm the team's long-term viability. One of the root causes of most organizations' collaborative failures is the underpinning philosophy that more collaboration is the solution (Cross, Cowen, Vertucci, & Thomas, 2009). Of course most of us are already overloaded, and the last thing we need is another meeting, telephone call, or technology that

can make us more accessible to everyone else. The strength of the network idea at a unit level is that it allows us to see more precisely how to connect not everybody – but only the four, five, or six junctures that can allow the organization to differentiate itself strategically.

Too much focus on external activities. Group effectiveness may suffer from a group's constant focus on its external environment, particularly when a group continually scans its environment for new information without settling down to a specific course of action. Moreover, if exchange personnel (e.g., LNOs) are away from their original area for too long, they potentially lose their ability to represent their own group (Ancona & Caldwell, 1988). In some cases, boundary spanners of the own group came to be viewed as outsiders. Ancona and Caldwell (1988) report that difficulties can arise when outsiders performing boundary spanning activities for other groups do not get fully integrated into the group and therefore do not supply important information or actually try to sabotage the team.

THE LIAISON IN INTERNATIONAL HEADQUARTERS EXERCISES

As mentioned, liaisons can be used as integrative mechanism for organizations to monitor and facilitate ongoing integration. A liaison officer or LNO is a military officer who coordinates activities between different parts of the military organization usually at staff level. Generally, this is done to achieve the best utilization of resources or employment of services of one organization by another. Usually part of the organization embeds a LNO in another part of the organization to provide face-to-face coordination.

To pinpoint the antecedents, behaviors, and consequences of the LNO in networked operations, semi-structured interviews were conducted with nearly all LNOs during two international headquarters exercises in 2008 and 2009. Further, we informally observed the work of LNOs during these exercises. Our main research question was to identify the success factors of good liaisons practice in networked operations and to compare these against the general boundary spanning literature. Because of the confidentiality of our data, no specific names or locations are given in the remainder of this chapter.

The headquarters was distributed over multiple locations. Two layers of the organization were exercised: joint headquarters and underlying single service headquarters. The joint headquarters observed during one of the exercises was distributed over two locations. It was split up in a forward staff element and a reach back. Together they formed the joint headquarters, despite acting from two different locations. The forward staff element was situated in the operational environment. They were in direct contact with the actors and

key leaders in the field. Also the operational threat was immediate to them. The reach back was based at their peace time location, working extended office hours. Staff members working in the reach back peace time location went home at night to have dinner with their families, were occupied by daily distraction like car trouble, kid's exams, etc. As a consequence, the geographical and operational separation constituted a large boundary or breakdown in organizational network, hampering the coordination (cf. Cross, Cowen, Vertucci, & Thomas, 2009).

Antecedents of Good Liaison Practice

During our numerous encounters with LNOs we learned that a competent LNO has to be a people-person: Liaisons have to be externally oriented and to enjoy and be interested in speaking to other people, establish relationships and build social networks. Interestingly, LNOs point out that electronic communication and information and communication systems can be a great distraction to their work. Although email is very handy when it comes to informing large groups of people, it is harmful to the work of liaisons to spent time behind the computer screen. "You should go out there and speak to people, get informed and build your social network." Further, without working experience and domain knowledge the job of a LNO is impossible. Moreover, in the procedures (SOPs) it is emphasized that a LNO has to be cognitively proficient in communicating the commanders opinions, interests and intent in the receiving headquarters. The rank of the LNO also has to be adequate. When the LNO has a rank that is too low, he or she will not be able to do his or her job in the receiving headquarters. Furthermore the LNO has to be able to speak the language fluently of the sending and receiving headquarters, and also that of the operational audience.

The LNO's main task is to represent their own commander at the receiving headquarters. They are the voice as well as the ears of their own commander in the receiving headquarters. Next to the official communication and information exchange, they also see an important role in passing on 'off-the-record' information as well as emotional information which gets lost in the formal information channels. Was the decision made instantly or was there a lot of discussion and emotions concerned with it? What was the mood of the commander when sending out a certain message? This is all relevant and valuable information for others to have and accompany the official messages.

According to most LNOs, their most valuable tool is their relationship with their receiving commanders. It is therefore very important to invest time in this relationship. A

social network in both the sending and receiving headquarters has to be set up at an early stage already. It is therefore necessary to be present at all the training moments. Thus, in order to fulfill the role of a LNO well, it is important to maintain the relationship with both commanders. Their function is based on trust. The trust of the sending commander in the liaison should be confirmed and passed on. The LNO has to have official authority to act on behalf of his commander. This can be achieved, for example, by providing a letter of authority.

It is important for LNOs to be able to exemplify and clarify the commander's intent. LNOs have to be able to elucidate their commander's intent to their receiving commander. It is the responsibility of the liaison to share information timely and to share adequate situation awareness. A LNO's main task is to make sure that the interaction between both organizations is optimal. These tasks can be summarized as monitoring, coordinating, communicating, advising, assisting and reporting.

Consequences and Challenges of Liaison Practice

The LNOs we spoke to were very much appreciated in the exercise environment. Their coordination role was acknowledged and appreciated. The biggest contribution was in facilitating coordination and communication between the different headquarters. Interestingly, they were also consulted as subject matter experts. Although they have officially no advisory role, LNOs need expertise and domain knowledge to be able to quickly clarify and interpreted information.

It was observed, however, that the role of the LNO in the organization was not clear to all. A lot of staff personnel misused the LNO for information requests. The role of the LNO, however, is to facilitate communication between the commanders, not to act as main communication channel between headquarters. Moreover, LNOs are sometimes seen as an add-on to the staff, rather than as an integral part of the staff. As a consequence, LNOs are not always familiar with the staff, procedures and processes, and sometimes even miss relevant information.

Another observed problem during our field studies was that not all headquarters were staffed by LNOs. This was mainly caused by selection and staffing problems of sending headquarters. As a consequence, the network of LNOs was not complete. This was found to hamper effective integration. Moreover, given the frequent communication with the commander it is in their interest to be situated close to the commander. However, this was not

always the case. The physical distance between LNO and commander often constituted a breakdown in communication.

More importantly, the military organization has yet to find a mechanism to handle stress. We observed that when the operational pressure increases, for example due to time pressure, the attention shifts towards general command and control tasks like planning and decision making. Integration mechanisms such as liaisons and information management tasks are often neglected or reduced to a minimum while under time pressure. This finding is an interesting add-on to the literature. It is well documented that boundary spanners may experience increased levels of stress due to role overload. However, no study has yet investigated the effects of increased time pressure or work load on integration mechanisms.

Finally, LNOs have to build and maintain a social network in order to fulfill their function. Unfortunately rotation schedules are not always parallel with the headquarters rotation schedule. We have heard that LNOs were being placed in their receiving headquarters just before an exercise or deployment. It speaks for itself that this may hamper coordination severely.

DISCUSSION

Many of the competences of LNOs we distilled from our interviews and observations match those found in the general literature and were acknowledged by the LNOs themselves. An important finding is that the LNO has to be a sociable or people person. An important difference with the general literature is the role of information and communication systems. According to Mortensen et al. (2007) and Browning (1998) information and communications systems provide important tools for facilitating boundary spanning activities. Mortensen et al. argue, for example, that information and communications systems help people to coordinate with one another when working at different locations for different projects. However, the LNOs we interviewed emphasize the critical value of personal face-to-face communication and the danger of being ‘glued’ to the computer screen. The LNOs we spoke to are of opinion that LNOs should be in the field speaking to people, getting informed and building a social network based on trust. Thus, our study shows that, according to LNOs, social integration mechanisms are more important then technical integration mechanisms.

Challenges concern the clarity of the role of the LNO in the receiving as well as sending organization. Time needs to be invested in making clear the role and contributions to the staff processes of the LNO. Further, integration mechanisms fail while under time

pressure. In time pressured situations attention shifts towards general command and control tasks like planning and decision making at the expense of integration and information management. Finally, to be able to build a social network and earn trust, LNOs need to be physically present and preparing with their receiving staff during the preparation phase.

Practical Implications and Future Work

A number of mechanisms surface in the literature to improve boundary spanning. Especially Browning's (1988) integrative mechanisms appear useful for practice. Other promising integrative mechanisms not yet discussed are reward systems. A number of studies confirm the importance of appropriate incentives and sanctions to shape organizational and individual behaviors within networks (Adamsson, 2007; Ancona & Caldwell, 1988; Currie, Finn, & Martin, 2008; Griffin & Hauser, 1996). Targets and incentives need to be harmonized to promote and reward working in networks in order to avoid the potential of existing and differing targets within individual organizations preventing effective partnership working and networking (Currie, Finn, & Martin, 2008). Reward systems should take into account both external and internal activities. Group leaders and members would need to be held accountable for both internal and external performance (Ancona & Caldwell, 1988). Moreover, organizations should develop norms that collectively hold every group member accountable for managing boundaries and explicitly encourage groups to view boundary spanning as a strategic priority (Marrone et al., 2007). A related but often ignored problem that awaits further research attention is the question of how we can tell which organization parts are in need for boundary spanning activities. To answer this question instruments need to be developed to assess a team's need for boundary spanning and the type of accompanying activities that should fit the team best.

Marrone et al. (2007) found that specific external activities at the team level can protect individual team members from role overload. Especially ambassador activities (see also Ancona & Caldwell, 1988) protect teams against unreasonable external expectations and team embers against information overload, difficult demands and requests, and/or impossible project deadlines. Such protection mechanisms can help ensure that team members are not unduly overloaded as they work towards accomplishing team objectives (cf. Ancona & Caldwell, 1988; 1992).

The literature points out the importance of matching boundary spanning activities to temporal fluctuations. An ideal setting according to Mortensen et al (2007) is to have

boundary spanners on-site full time during the early phase of project to get to know their counterparts, their context, and their needs. After the basic relationship is established and some initial satisfactory output has been produced, boundary spanner behavior can continue on a part-time status, enabling boundary spanners to work for different groups or even organizations. This finding stresses the importance for LNOs of being physically present during preparation phases of networked operations.

Finally, concern should be given to the negative consequences of boundary spanning, such as role overload. Marrone et al. (2007) found that rather than assigning specific team members boundary spanning roles, building boundary spanning into the responsibilities of all team members will better enable the team to maximize its boundary spanning function while also mitigating personal costs to team members that, if left unchecked, will negatively impact the team's ability to function productively over time. Following this line of reasoning, an effective measure to improve boundary spanning may be to assign boundary spanning activities into the responsibilities of all staff members and not just to LNOs.

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