Abstract

This article traces processes of organizational learning in a Directorate General of the European Commission. The main interest is to learn about the Commission as a corporate actor through analyzing learning processes that are triggered by its linkages with external stakeholders in expert communities, economy, and the national governments of the member states. The notion of boundary spanning activities is introduced to capture the communicative interactions between officials of the Directorate General and external stakeholders as a means of assembling demands, expectations, and expertise in its environment. Organizational learning theories provide a framework for understanding how the externally acquired information is transformed into an organizational property that is beneficial to the focal organization. Organizational learning from boundary spanning activities is defined as a social accomplishment that rests on the distribution and interpretation of the gained knowledge and its storage in the organizational memory.

1 This is a first draft of a conference paper, based on previous research. Comments are very welcome!
Introduction

This article presents empirical evidence from a fine-grained case study about organizational learning in a Directorate General of the European Commission. The case-study looks, in particular, at learning processes that are triggered by the boundary spanning activities between the Directorate General and external stakeholders. Learning appeared essential because the focal organization was facing tremendous challenges when it took up its activities to launch a new research program as part of the European technology policy. It had to develop its capacity for strategic action to cope with the increase in the program's complexity and with the pace of technological developments within the constraints set by the member states in the institutions that govern its activities. The Directorate General was changing existing practices, yet maintaining others to cope with these challenges. The analysis of the Directorate General's boundary spanning activities with external stakeholders highlights this apparent paradox between change and continuity. A comparative analysis of two different cases of boundary spanning activities, namely (a) between the Directorate General and technical experts from industry and academia and (b) between the Directorate General and national delegates from the governments in the member states, demonstrates that opportunities and constraints in accommodating to changing environmental conditions are socially constructed, leading to distinctive qualities of organizational learning. The analysis is based on more than 40 qualitative interviews and documentary research.

The notion of boundary spanning activities is introduced to address the theoretical lacunae about the mechanisms in the organization-environment nexus that trigger learning. The contention that learning is triggered by processes of responding to changes in the external environment is a traditional building block in theories of organizational learning (see, for instance, Argyris/Schön 1978: 29; Hedberg 1981: 3; March/Olsen 1975: 157). The basic rationale, that dynamic and complex environments require adaptation in organizations, and successful adaptation is contingent on effective learning, is shared by numerous authors in the field of organizational learning (see Berthoin Antal/Dierkes/Child/Nonaka 2001a; Dodgson 1993; Edmondson/Moingeon 1998; Huber 1991; Popper/Lipshitz 2000; Scherf-Braune 2000; Senge 1990). However, despite the fact that this argument has become mainstream in the organizational learning discourse, the organization-environment alignment is often treated as a black box (Gnyawali/Stewart 2003; Klimecki/Thomae 1997). The boundary spanning activities notion directs attention to the communicative interactions between organization
members and external stakeholders as a social practice that enhances organizations’ knowledgeability about changing conditions and developments in the environment (Böhling 2001; 2002; Sutcliffe 2001; Tacke 1997; Wiesenthal 1995). Variations in the characteristics of boundary spanning activities affect how organizations learn because it depends on the actors involved and the nature of their dialogue what counts as relevant knowledge and how it crosses the external boundaries of organizations. Boundary spanning activities may be seen as more or less formalized, serving specific goals, and embodying particular rights and obligations. Certain underlying orientations guide the behavior of the organizational members and external stakeholders involved together with taken-for-granted assumptions.

It is the key message of this article that the social constitution of an organization’s boundary spanning activities is significant for the way how the actors involved construct their understandings about the environment and link these to processes of organizing. The organizational learning approach to the study of boundary spanning activities is instructive to explore first how the focal organization makes sense of its environment through the creation and re-creation of collective understandings and then to highlight how these understandings are associated with action. The two distinctive qualities of learning that can be identified reveal the Directorate General’s capacity to act as supranational technocracy and politicized bureaucracy. Its boundary spanning activities with technical experts from industry and academia provide the Directorate General with specialized knowledge and authority that is used to shape the deliberative framework within which policy decisions are taken, leading to considerable gaps in member state control. Furthermore, it can be shown that the Directorate General draws on its boundary spanning activities with the national delegates from the member states to learn about their interests and how to safeguard them in those phases of the policy process that require the delegates’ approval. Based on a further discussion of these insights, inferences will be drawn about boundary spanning, organizing processes, and learning to stimulate the organizational learning discourse with its dominant focus on business organizations.

**Previous Research**

The notion of boundary spanning is elaborated within the imagery of organizations as open systems to emphasize the idea that interactions with external stakeholders affect the behavior of organizations. Adams (1980) provides a classification of different boundary activities, including the filtering of inputs, the search for information, and the representation of organi-
zations towards important groups in their environments, to stress the transformation of inputs from external sources into outputs within organizations as having effects on their environments and feedback effects on themselves. Tushman and Scanlan (1981) look at boundary spanning from an informational view to highlight the role of individual organization members in spanning the "communication boundary" between external areas and the internal information needs of the organization. They stress that those individuals must be well connected internally and externally, and knowledgeable of "local coding schemes and languages as well as the specialized conceptual frameworks" to translate the acquired information so that it is of relevance to the organization (idem: 291). Ancona and Caldwell (1992) develop a typology of organizations' external communication behavior to show that the behavioral patterns of external activities rather than the frequency of communication affect organizational performance.

The ideas associated with the concept of boundary spanning can be traced back to Thompson (1962; 1967) and Aldrich (1979). They coined the terms “boundary spanning roles” and “boundary spanning units” respectively to explore the conditions under which organizations adjust their structures and activities in response to environmental changes. Drawing on Thompson's (1967) contention that organizational boundaries need to be conceptualized as both permeable and as barriers to protect the internal equilibrium of an organization from external disruption, Aldrich (1979: 243) argues that, “the existence of boundary spanning roles is an important guide to environmental contingencies perceived as significant by authorities.” He applies Thompson’s underlying reasoning of the organization-environment alignment – namely structural isomorphism – to the rise of boundary spanning activities, relating these processes to environmental characteristics and organizational size. “Environmental pressures or demands are responsible for much of the observed boundary role differentiation in organizations … As environments become more complex or differentiated, so do the relevant boundary roles” (Aldrich 1979: 255-6). Accordingly, heterogeneity and instability in the environment help explain the generation and formalization of boundary spanning roles. As environments become more heterogeneous and unstable, organizations tend to assign the boundary spanning roles to functionally differentiated units in an effort to cope with the perceived complexity of the environment (Thompson 1967). They are more common in large organizations with a high degree of internal differentiation and specialization. As Thompson (1967: 70) points out, large organizations operating in heterogeneous environments “seek to identify homogeneous segments and establish structural
units to deal with each.” The monitoring of changes through boundary spanning roles is more critical to organizational survival in unstable environments than in stable environments.

Along with the functional differentiation of boundary spanning roles, the degree of their routinization is another major characteristic that distinguishes their social constitution. Thompson (1967) points out that organizations try to control the behavior of their boundary spanning personnel because they tend to develop attitudes that are similar to the external stakeholders they are dealing with. To perform the role of boundary spanner successfully, the incumbent must be able to represent to other members of his organization the expectations, preferences, values and norms of external groups. However, by appreciating and understanding outside groups, boundary spanners may be perceived of having a suspect loyalty to those groups (Adams 1980; see Crozier/Friedberg 1979). Standard operating procedures and other limits to the boundary spanners’ discretion are therefore employed to reduce the risk that boundary spanners may exhibit attitudes and behaviors that are not consistent with their organization’s objectives. Conversely, a minimal degree of routinization is necessary so as to enable incumbents of boundary spanning roles to deal with exceptional cases in heterogeneous environments. As Aldrich (1979: 260) explains, “the degree to which boundary roles are routinized is thus a function of both pressures to adapt to environmental contingencies and constraints and the necessity of controlling the behavior of potentially deviant members.” The isomorphic relationship between the environment and the social constitution of boundary spanning roles is illustrated in table 1.

<table>
<thead>
<tr>
<th>Environment:</th>
<th>Stable</th>
<th>Dynamic</th>
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<tbody>
<tr>
<td><strong>Homogeneous</strong></td>
<td>- standardized with prescribed limits</td>
<td>- flexible with discretionary content</td>
</tr>
<tr>
<td></td>
<td>- centralized</td>
<td>- centralized</td>
</tr>
<tr>
<td><strong>Heterogeneous</strong></td>
<td>- standardized with prescribed limits</td>
<td>- flexible with discretionary content</td>
</tr>
<tr>
<td></td>
<td>- functionally-differentiated and decentralized</td>
<td>- functionally-differentiated and decentralized</td>
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</table>

Table 1  Social constitution of boundary spanning roles in changing environments
The concept of boundary spanning activities is relevant to theories of organizational learning when the environment is treated as a source of information (Sutcliffe 2001). Boundary spanners gather intelligence about environmental changes and developments and make it available to other members of the organization. Aldrich (1979) points out that boundary spanners must be quite skilled in filtering out external events that may be relevant for the organization’s objectives and summarize the acquired knowledge in terminology other members can understand. Acting as filters and facilitators, boundary spanners protect the organizational core from information overload and contribute to adjustment and renewal in the organization by making it aware of new developments in the environment. Boundary spanners’ influence on the channeling of knowledge from external sources into organizations is also acknowledged by Child and Heavens (2001). They note that, “boundary spanners who work at the interface between their firm and its external environment play a critical role in the process of transferring information into an organization” (idem: 320).

In addition to processing information, boundary spanners may also assume an external representation function. When boundary spanners represent their organization in the environment the flow of information is essentially outward-oriented. Boundary spanners provide information about the organization, its operations and management to the external environment, partly as a result of external demand and partly on own initiative, to represent their organization in the environment and mediate between it and important outside groups (Adams 1980). The provision of information to external client groups that are specifically adapted to the organization generates social support and legitimacy (Aldrich 1979). Ancona and Caldwell (1992: 638) describe the external representation of boundary spanning as "molding" because they see it as an organization's attempt "to influence the external environment to suit its agenda by shaping the beliefs and behaviors of outsiders." Adams (1980: 345) points out, that organizations are selective in the transmittal of information about themselves because it makes them “vulnerable to competitors and to the manipulation of other organizations.” The literature on boundary spanning is not clear, however, about the achievement of selectiveness in the transmittal of information to external groups. The environment is not treated as a source of information that needs to be tapped for the purpose of representing the organization. It is emphasized, instead, that boundary spanners depend on other organizational members for the provision of information to important outside groups that helps to get external support (Adams 1980). Tushman and Scanlan (1981) stress that the formalized purpose of representational roles to focus on resource acquisition and disposal reduces the incumbents' "sensitivity to exceptions, opportunities, or new ideas from outside
the organization [and may therefore] not serve as an information linking mechanism for areas within the organization" (idem: 301).

**Boundary spanning activities, organizing processes, and learning**

The availability of new knowledge deemed relevant for organizations’ activities as a result of talking to external stakeholders may trigger organizational learning but does not explain it as such. A number of other factors in the internal context of organizations also influence the absorption of the gained knowledge, including their structural, cultural and regulatory properties and organizational politics. Distinctive challenges and opportunities are accompanied with learning processes that are informed and stimulated by interpersonal relations between organizational members and external stakeholders. They come to the fore when organizational learning is seen as a process. Processes of learning can be conceived in a number of different ways. According to the traditional paradigm, learning is treated as a stepwise process, focusing on how knowledge is acquired, distributed, and stored in the memory of organizations (Berthoin Antal/Dierkes/Child/Nonaka 2001a: 5; Berthoin Antal 1997; DiBella/Nevis/Gould 1996; Huber 1991).

One of the most comprehensive overviews of the distinct stages involved in learning is Huber's (1991) model of organizational learning because it synthesizes the work from different research groups. The comprehensiveness of Huber’s contribution is a response of what he perceived as a lack of cumulative and consolidated work in the organizational learning discourse (see also Gnyawali/Stewart 2003; Schreyögg/Eberl 1998; Wiesenthal 1995). According to Huber, organizational learning consists of "knowledge acquisition", "information distribution" and "interpretation", and "organizational memory". Huber's stage model suggests that learning does not occur simply by organizing the acquisition of new knowledge (see also DiBella et al. 1996), but encompasses internally-based and externally-oriented strategies for identifying new knowledge and for disseminating it widely and deeply enough for action to be taken. Moreover, knowledge gains need to become meaningful to organizations’ activities in the process of interpretation to have an effect on their range of behaviors. The creation and re-creation of collective understandings about the relevance of the knowledge gains is at the center of the interpretation stage. Finally, organizational memory indicates the means by which new knowledge is stored for future use. A great deal of organizations’ knowledge about how to do things is stored in standard operating procedures, routines and scripts. The “repository of organized knowledge” is a template for action and
interpretation (Walsh 1995: 286). Because the four distinct stages direct attention to the transformation of knowledge gains into an organizational property, the relationship between organizational thought and action is highlighted (Gherardi/Nicolini/Odella 1998; Gherardi/Nicolini 2001).

Organizational learning from boundary spanning activities is defined as the creation of organizational knowledge that is a social accomplishment involving the distribution and interpretation of externally acquired knowledge and its integration with the organizational memory. The organizational learning perspective on boundary spanning activities suggests that inferences that are drawn about the environment in the process of boundary spanning activities will not necessarily be shared by other members of the organization. The processes of organizing that sustain learning are emphasized because boundary spanning activities shed light on the communicative interactions at organizations’ external boundaries and their linkages with internal dynamics (Crozier/Friedberg 1979). In that sense, current debates about the nature and location of organizational learning are addressed, namely that “learning occurs, and knowledge is created, mainly through conversations and interactions between people (Easterby-Smith/Crossan/Nicolini 2000: 787, italics in original). To explore the argument about boundary spanning activities, processes of organizing, and learning the impact of boundary spanning activities on each step in Huber’s learning model will be discussed in the following sections.

*Boundary spanning activities and knowledge acquisition*

The emphasis on boundary spanning activities as a means to acquire knowledge about changes and developments in organizations’ environments draws attention the processes whereby information from external sources becomes relevant knowledge for organizations. The contributing literature to boundary spanning suggests that the social constitution of boundary spanning activities is an important determinant for the ways in which openness towards knowledge from external sources is achieved and defined as relevant (Aldrich 1979; Huber 1991; Thompson 1967). It includes the functional differentiation and regulation of boundary spanning activities. In light of the information processing mode, boundary spanners are considered as searching for knowledge about critical contingencies in the environment and processing it to other members of the organization for enhancing the effectiveness of strategic management. Environmental scanning through boundary spanning personnel may furthermore contribute to the monitoring of an organization’s performance. The processing of knowledge about the environment can be seen as a precursor to representing an organization towards
important groups in the environment. As a result of their external relations, boundary spanners are able to assess how well an organization is meeting both its own standards and the expectations of external stakeholders. These contacts open up possibilities to influence which issues are being addressed when external bodies assess how an organization is doing (Child 1997). Organizations may thus acquire information about external demands and expectations and process it to modify their behavior towards the stakeholders whose support is needed.

The regulation of boundary spanning activities is an additional factor that makes a difference for the identification of relevant knowledge and its transfer into the organization (Aldrich 1979; Child/Heavens 2001; Crozier/Friedberg 1979; Jevnaker 2003). If the interaction with external stakeholders is highly formalized the framework for environmental monitoring and how to handle potential knowledge gains tends to be pre-defined and stifle innovation. The regulation of boundary spanning activities according to standardized rules and procedures leaves little room for maneuver to the actors involved in influencing the terms for defining relevant knowledge and how it is channeled into the organization. Conversely, flexibility in the regulation of interaction with external stakeholders produces discretion for those involved to draw inferences from environmental monitoring that reflect their interests and views. Discretion and expertise in interpreting external events and occurrences to other organizational members is a source of power for boundary spanning personnel (Thompson 1967; Tushman/Scanlan 1981). Moreover, access to knowledge deemed relevant for an organization and influence on its dissemination may be converted into power if uncertainty is absorbed “by selectively paring away the world’s native complexity” (Gordenker/Saunders 1978: 87).

**Boundary spanning activities and knowledge distribution**

To understand the impact of boundary spanning activities on the distribution of knowledge it is helpful to look at the activities’ linkages with intra-organizational processes. Boundary spanning activities affect multiple decisions a priori or during processes of organizing (Jevnaker 2003). The regulation of the linkages between boundary spanning activities and intra-organizational processes shapes the extent to which and how the different subgroups in an organization gain access to the externally acquired knowledge. Shrivastava (1983: 23), for instance, notes that an organization’s regulatory system controls the flow of information among organizational members through guiding “exactly which information goes to whom and for what purposes.” The rules that govern those linkages are understood as “repetitive, recognizable patterns of interdependent actions, carried out by multiple actors” (Feldman/
Pentland 2003: 95). The impact of an organization’s regulatory system on the distribution of the knowledge gained through boundary spanning activities varies with the degree of its formalization. The more formalized the linkages between boundary spanning activities and intra-organizational processes are, the less choice there is for those involved to determine who gets what kind of knowledge and for what purposes (see Fox 1974).

However, even when the linkages between an organization’s boundary spanning activities and internal processes are highly formalized, the distribution of knowledge is not an automatic process. The rules and routines that govern knowledge distribution may “exhibit considerable variety and require effort from anyone intent on engaging in them successfully” (Kieser/Beck/Tainio 2001: 600). The involvement of different people in distributing knowledge gains makes it unlikely that rules and routines unfold the same way every time (Pentland/Rueter 1994). They bring in their own attitudes, emphases, and interests that may vary over time and as such color the distribution and reception of knowledge triggered by boundary spanning activities. People undertake adjustments and improvisations to make rules and routines work (Feldman/Pentland 2003). Agency in the distribution of externally acquired knowledge implies that organizational members may use the governing principles to influence the knowledge sharing according to their interests.

**Boundary spanning activities and knowledge interpretation**

Those involved in boundary spanning activities induce interpretation processes in organizations because information from external sources becomes only relevant knowledge to organizations when it is related to their strategies and operations (Huber 1991). However, the meaning of the acquired knowledge is not established once and or all. Organizations are “the result of an intense activity of assemblage, boundary-making and identity-preserving”, rather than stable entities with defined boundaries (Easterby-Smith et al. 2000: 791). They consist of various subgroups and cultures with different goals, frames of reference, and interests that may lead to difficulties in understanding each other's terminology, metaphors, or stories. Other subgroups may look at things from a different angle, follow other objectives, and have other taken-for-granted assumptions. The existence of multiple realities in organizations and a variety of practices that are not necessarily coherent make it essential for learning that similar understandings about the relevance of the acquired knowledge are developed across an organization’s subgroups (Weick/Ashford 2001). The core issue in interpretation processes that are triggered by learning from boundary spanning activities is therefore the extent to which the initial definition of meaning is subject of sense-making processes across the
subgroups of organizations, that is, whether knowledge deemed relevant by some is equally understood by others.

Learning theories emphasize the politics of organizational knowledge in interpretation processes. Because learning “take[s] place in a landscape of interests and differential power positions and relations”, leaders are given a special prerogative in the development of mutual or shared understandings about external occurrences (Easterby-Smith et al. 2000: 793; see Coopey 1995; Czarniawaska-Joerges 1996; Filion/Rudolph 1999). Senior management in organizations may strongly influence the insiders’ perceptions of the external environment and outsiders’ reciprocal perceptions through their control of strategic planning. The close relationship between power and knowledge (Hardy/Clegg 1996) is also a salient issue because "key members of the organization have a stake in maintaining the structures and power relations that are advantageous to them" (Berthoin Antal/Dierkes/Child/Nonaka 2001b: 866). The adoption of certain understandings about environmental changes and developments as crucial for organizational survival may call for a modification of an organization's behavior towards its environment and challenge the internal status quo.

To provide a differentiated account of the ways in which organizational politics affect the creation and re-creation of collective understandings about the environment across the internal barriers of organizations reference can be made to the resources, processes, meaning, and system dimensions of power and how they are acted upon in organizations (Hardy 1996; Lukes 1974). The table below gives an overview.

<table>
<thead>
<tr>
<th>Source of power</th>
<th>Power of resources</th>
<th>Power of processes</th>
<th>Power of meaning</th>
<th>Power of the system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information, expertise, credibility, prestige, access to senior management, control of rewards and sanctions, etc.</td>
<td>Decision-making processes, participants and agendas, etc.</td>
<td>Symbols, rituals, language, etc.</td>
<td>Unconscious acceptance of values, traditions, structures, etc.</td>
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| Action of power | Principles of behavior modification are used to influence specific actions. | New awareness is created by opening up processes to new participants, issues and agendas. | Change is given new meaning, making it appear legitimate, desirable, rational or inevitable. | Prevents change by capturing all organization members in its web. |

Table 2 Dimensions of power (Source: Adapted from Hardy 1996: S7)
Based on these grounds it is argued that organizational politics take shape in different forms and may therefore affect the sense-making of acquired knowledge in different ways. Organizational members draw on the different sources of power when they interpret the knowledge gained through boundary spanning activities. Accordingly, boundary spanners’ provision of new knowledge deemed relevant for organizational activities is affected by and affects the resource dimension of power when the knowledge feeds into decision-making processes. Boundary spanners may play a vital role in decision-making by demonstrating that their perceptions about environmental changes matter for decisions to be taken. The establishment of similar views on environmental changes between boundary spanners and senior management may make their perceptions appear significant. This kind of coalitions highlights the meaning dimension of power on interpretation processes because it tends to shape perceptions of other organizational members. The development of shared understandings about the acquired knowledge depends furthermore on the regulation of the decision-making process where it feeds in. Because organizational rules and routines guide decision-making processes they determine which subgroups are involved at which stage and to what extent they may influence the outcome of the decision-making. The regulation of the decision-making where the knowledge gained from external sources feeds into tends to reinforce and reproduce the underlying structures and cultures of an organization. However, the system dimension of power does not fully determine sense-making processes in decision-making because rules and routines are both a source of stability and a means to generate change (Feldman/Pentland 2003; see Giddens 1984; Granovetter 1985).

Boundary spanning activities and the organizational memory

The importance of an organization’s regulatory aspects for acquiring, distributing, and interpreting the knowledge gained from boundary spanning activities highlights the impact of its memory on learning processes. In addition to the norms and forms of an organization its rules and routines play the role of memory because they are a way to encode knowledge and capabilities for future use (Berthoin Antal 2000; Huber 1991; March 1991). An organization draws on its memory to "preserve certain behaviors, mental maps, norms and values over time" irrespective of personnel turnover or changes in leadership (Hedberg 1981: 6). The regulatory aspects of organizations, their specialization, departmentalization, and rituals and beliefs affect how knowledge deemed relevant becomes integrated in the organizational knowledge base and the mechanisms for retrieving it. Because the regulatory, cultural, and
structural properties of organizations stabilize their activities they give also rise to a certain element of inertia in learning processes.

The stabilizing element of the organizational memory on learning processes implies that the knowledge gained through boundary spanning activities becomes relevant knowledge to an organization if it is compatible with the dominant beliefs and practices, and if it fits with the structural arrangements. To emphasize the stabilizing element of the organizational memory on learning from boundary spanning activities implies furthermore that organizations are locked into "single-loop learning", leading to the refinement of existing practices and beliefs (Argyris/Schön 1978; Nonaka/Takeuchi 1995). But the stabilizing element of the organizational memory on learning contradicts the destabilizing element of boundary spanning activities on organizational life. The inferences organizational members draw from their communicative interactions with external stakeholders entail "the risk of destabilizing the activity system" (Tacke 1997: 16). Jevnaker (2003), for instance, points out that organizations gain access to knowledge through their boundary spanning activities that tends to be uncertain, equivocal and plagued by interpretive barriers. Knowledge that is tapped from external sources may be inconsistent with conceptions of appropriateness in organizations (Levintal/March 1993) and incompatible with their core beliefs (Wiesenthal 1995: 145, italics in original). Assuming that organizations tend to stabilize their activities when they learn, it may therefore be asked how learning can be achieved in the presence of a variety of new, but not necessarily compatible ideas, perspectives, expectations, and forms of expertise organizations gain access to through their boundary spanning activities?

**Methods**

Having explored the impact of boundary spanning activities on organizational learning the argument about the interrelations between boundary spanning activities, processes of organizing and learning can be summarized as follows: The organizational learning perspective on boundary spanning activities directs attention to the processes of organizing that affect how organizations align with changing conditions and developments in their environments. Knowledge from external sources is shared and used if it feeds into operational and strategic decision-making processes of organizations. Depending on the functional differentiation of boundary spanning activities, the regulation of the linkages with intra-organizational processes, the impact of organizational politics on the creation of collective understandings, and the stability of the activity system, organizations may both refine and
change existing practices. The key issues of the analytical framework are translated into the following research questions to provide a starting point for examining the organization-environment alignment through learning from boundary spanning activities:

1. How is openness towards knowledge from external sources in boundary spanning activities achieved that differ in terms of their functional differentiation and formalization?

2. What is the nature of the linkages between boundary spanning activities and intra-organizational processes, and how does it affect the distribution of knowledge gains deemed relevant for organizational activities?

3. To what extent is the initial definition of meaning subject of sense-making processes and how are these processes shaped by organizational politics?

4. How does the knowledge acquired through boundary spanning activities stabilize or destabilize certain behaviors?

This study uses a case-study approach to explore the notion of boundary spanning activities and how it relates to processes of organizing and learning. It is based on 43 in-depth interviews with Commission staff and external stakeholders from industry, academia and member state governments. Documentary research, including legal acts and program publications, complement the analysis of the interviews. The aim of the study is theory elaboration, drawing on and extending important ideas from the organizational learning discourse. Case-studies are conducted to furnish sufficient insight into the complex interrelationships between the factors that are identified in the analytical framework (Child/Smith 1987). Recent empirical studies in the organizational learning discourse follow this track by emphasizing that the theoretical grounding is a key requirement for conducting case-studies about learning in organizations (Krebsbach-Gnath 1996: 91; see Geppert 2000; Kerlen 2003; Scherf-Braune 2000). Moreover, as Maitlis (2005: 24) points out, qualitative methodology is a valuable means of investigating dynamic processes in organizations “because of its sensitivity to organizational context and its potential for focusing upon activity sequences as they unfold.”

**Research Context**

The object of the study is the management and administration of the Research and Technology Development (RTD) program that promotes a “User-friendly Information Society” in
the 5th framework program (1998 – 2002) of the European Community. The Information Society Technologies (IST) program is one of the four specific research programs of the European Community within the 5th framework program. It is with 3.6 billion Euros the biggest initiative within the 5th framework program that amounts in total to 14.96 billion Euros. Putting the management of the IST program at the center directs attention to the Directorate General for Information Society (DG INFSO) of the European Commission. The administration was created at the end of the 1990s to manage the IST program. The declared mission behind the creation of DG INFSO is to formulate and implement coherent and integrative policies for the broadly defined Information Society. The birth of the administration was accompanied with the programmatic merger that distinguishes the IST program. IST builds on the convergence of technologies and integrates the three programs of the 4th framework program that are related to information- and communication technologies, namely ESPRIT with its focus on information technologies, ACTS that centered on the development of communication technologies, and Telematic Applications (TAP).

The convergence of technologies may have been a sound reasoning behind the merger of ESPRIT, ACTS, and TAP, but once decided upon by the Council of Ministers and the European Parliament it seemed that reality was lagging behind. Bridges had to be built, sectors to be crossed and multi-disciplinary research to be fostered by an administration that did not have the background by that time to do so. Instead, when the IST program started to be implemented, DG INFSO was challenged to develop such a background that would enable it to act as a driving force behind the convergence of technologies. The empirical evidence demonstrates that the administration copes with this challenge through learning from its boundary spanning activities with stakeholders from industry, academia, and member state governments. The communicative interactions between DG INFSO and two bodies composed of external stakeholders are highlighted to show that it accumulates knowledge from external sources and develops its agency as supranational technocracy and politicized bureaucracy. Emphasis is placed, first of all, on the involvement of the advisory group ISTAG that provides DG INFSO with advice about the content and direction of the IST program. Secondly, the administration’s linkage to the governments in the member states is highlighted. DG INFSO is monitored by the management committee ISTC that represents the concerns and preferences of the national governments. The administration’s communicative interactions with the two bodies are not its only paths to industry, academia, and member states. DG INFSO

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engages in multiple ways of boundary work to align with its environment. Yet, ISTAG and ISTC play a prominent role in decisions that concern the management of the program.

Results

The presentation of the empirical evidence summarizes a number of major findings from the case studies about the boundary spanning activities of DG INFSO. It is organized according to the stage model of organizational learning as developed by Huber (1991).

_Achieving openness through boundary spanning activities_

DG INFSO creates openness towards the changes and developments in its environment through the boundary spanning activities with ISTAG and ISTC. The administration is actively shaping the conditions under which openness towards learning areas is achieved that are deemed relevant for its activities in the implementation of the IST program. Learning from the boundary spanning activities with ISTAG and ISTC is crucial when DG INFSO tries to anticipate changes in technology, markets and socio-economic contexts through the drafting of annual work programs. It is a process in which the Directorate General identifies the priorities of the coming year, refines and updates the topics to be addressed, and specifies a road map for implementing the program. The road map includes the calls for proposals and budgetary allocations for each of those calls. A host of external and internal consultations facilitate the definition of the work program. It is during this step of the management process that the administration acts somewhere in the middle between big and small companies, constituencies from information technologies, telecommunications, software and content producers, and, of course, the member states of the European Union. A typical challenge during work program drafting is therefore the establishment of a focus. An official explains:

"You need to focus because you do not have available all the money in the world to spend … And this focusing runs counter to the fact that there are many interests from the various constituencies … but only a few aspects are considered to be of strategic importance for Europe." (Com03_5: 2)

The need to develop a strategy for the IST program sets the stage for the knowledge-seeking behavior of DG INFSO towards ISTAG. The advisory group proposes the vision of ambient intelligence that describes its assessment of the future developments in Information Society. The vision of ambient intelligence is described as the concept of converging technologies that brings electronics, information technology, and communications in such a way together that technology becomes less visible, yet more relevant. The fact that DG INFSO took up this
concept as the official rationale for the drafting of the annual work programs is evidence for
the impact of ISTAG. Officials in DG INFSO appreciate the advisory group for its
contribution to the development of a common view about the way to go with the IST program.
Looking at the heterogeneity of the program’s constituency, competing interest constellations,
and the difficulties of realizing the convergence of technologies, the value added of ISTAG
for DG INFSO consists in speaking with a concerted voice about future trends in Information
Society.

"The large value of ISTAG in 2000 was to build a consensus around the fact that this ambient intelligence
became the key paradigm … You need some visionary people that have enough power, convincing power
like ISTAG to convince the Commission and the research community that this was the paradigm for
research in the years to come." (Com01_11: 3)

The ISTAG meetings are used as a forum for the concertation of views and perspectives
among different actors, representing different fields of research and sectors in the economy.
DG INFSO plays an important role in the concertation of the different views. By organizing
the activities of ISTAG the administration creates opportunities to tailor the input of the group
to its learning needs. Once the members of ISTAG were selected for their technical expertise
and authority, DG INFSO established how it would work with them. The administration treats
the ISTAG experts as partners in a collaborative effort that culminates in the development and
exploration of a vision for the IST program. Both parties draw on the latitude for action that
distinguishes their boundary spanning activities to define the issues to be addressed by
ISTAG. The interviews with members of the group and officials of the administration reveal
that the process of establishing the agenda is interactive. Representatives of DG INFSO put
questions or requests on the ISTAG table, asking for advice or a position on a certain issue.
The group’s members also come up with topics that they consider worth investigating on.
Both sides, then, usually define the starting point for the provision of advice that is considered
helpful for the activities of DG INFSO. The issues to be addressed by the group enter the
stage after being discussed between both sides.

"A small terms of reference is being made … this is how we define our goal, this is our objective, that is
our time frame where we want to do this, a report or something like that. And then these kinds of things
are linked with internal things in the Commission: We have to take such and such decisions … for us to
influence it, we need that thing until then. That is how it works, and it works quite well." (AG5: 15)

The knowledge-seeking behavior of DG INFSO towards ISTC is a function of the
committee’s formal role in the management of the IST program. ISTC is a functionally-
differentiated monitoring body that regulates the activities of the administration in the
implementation of IST. The administration’s acknowledgement of the governments’ views on
the program that are represented by the national delegates is a means of achieving approval from them. DG INFSO involves ISTC in the determination of who gets what in the program, but not to discuss with the delegates about their views on trends in technology, competitiveness, and appropriate measures for research and technology development. The members of ISTC do not attend the meetings with DG INFSO “à titre personelle”, as an official notes (Com00_1: 4), but to fulfill an official mandate and they are equipped with a number of rights to do so. The national delegates provide the administration with the necessary knowledge to come up with agreeable proposals while DG INFSO gets from ISTC what it expects from it. An official describes the role of ISTC in the definition of the annual work programs and how it relates to the knowledge, which the committee provides as follows:

"ISTC … as a group [is] in charge of making sure of what is proposed in the content of the work program is compatible with the national priorities … So these representatives know the priorities of their ministries and they want to make sure that this is reflected by the work program as it is defined in such a way that the European funding reinforces the efforts which are made by the member states.” (Com00_2: 2)

The formal committee meetings set the stage for the incorporation of the governments’ concerns and preferences that are represented by the delegates but do not facilitate it as such. The formalized working relationship between DG INFSO and ISTC provides the actors involved with opportunities to incorporate and acknowledge the delegates’ inputs in decisions that require the committee’s approval. A delegate explains:

"The formal powers, you need them in order to have the informal influences over what goes into the work program, and how the evaluations are done and so on and so forth. I think the main contributions that we make are the informal ones because the formal ones are essentially trivial. It’s just saying Yes." (PC2: 14)

The communication with the national delegates to ISTC entails dialogue, clarification and bargaining and is usually accomplished on a bi- or tri-lateral basis. The quality of the communicative interactions creates informational asymmetries towards the committee. DG INFSO knows more about the concerns and preferences of the member state governments than the sum of the individual delegates to ISTC. The incorporation of this kind of input enables the Directorate General to generate agreement between the member states when their approval is required and, hence, to take the lead in decision-making about the program's direction and budget allocations. The strong reliance on informal channels for the incorporation of the delegates' views hampers the administration's ability to collectively learn from ISTC, though. If conflicting interests between member states and DG INFSO are mainly accommodated in an informal atmosphere, the issues at stake tend to remain in the minds of
the individual delegates and officials involved but not to be shared among a wider audience in the internal context of the administration.

**Linking boundary spanning activities with processes of organizing**

The comparative analysis between the two cases of boundary spanning activities reveals that the creation of explicit linkages between boundary spanning activities and internal processes of organizing plays a crucial role for disseminating the acquired knowledge widely across the subgroups of DG INFSO. Both bodies are involved in decisions that concern the implementation of the IST program but the two cases of boundary spanning activities differ in the way they are linked with the administration’s internal dynamics. Whereas the ISTAG advice is acquired to have it processed internally, DG INFSO develops its knowledge about policy-oriented matters to show that IST supports similar initiatives in the member states. The visionary recommendations of ISTAG become part of the common effort in DG INFSO that culminates in the drafting of the annual IST work programs. Based on the consultations of the program’s constituency, the different directorates within the administration develop their contributions from bottom-up with guidance from top-down to feed them into the drafting process. Communication and negotiation are essential for arriving at a common directorate input for work program drafting, as emphasized by a work program coordinator:

"There is a lot of I would call it win-win capabilities that you need to apply here in order to get your colleagues with you to support this and to say this is our work program, yes this is our work program. And, of course, they send it out to other people, they consult their projects and they got some paragraphs from here and there which they wanted to add, it was not all their input." (Com03_5: 8)

DG INFSO has an elaborate system of rules and procedures to accomplish the development of contributions to the work program across the distinctive directorates in similar ways. The directorate inputs are pulled together in the editorial board, which is in charge of writing a first draft of the work program. The editorial board consists of the work program coordinators, representing the interests of their directorates, and is coordinated by the horizontally operating F6 unit “Work program and cross-program themes”. The F6 unit uses the ISTAG vision as a major filter in the drafting process, trying to align the different and sometimes conflicting views and perspectives that are brought in. It proposes a first draft to the editorial board and the directors but lacks formally the authority to decide on the content. However, "everything else is an adjustment of the very first strategy that is taken" (Com03_7: 5). F6 consolidates the various contributions that feed into the work program. It is "holding the pen" in the editing process, as an official observes:
"So they are pulling this together with my director and some support from the operational sectors of the five directorates. But essentially someone has to hold the pen, so it comes down to these few people … In the process of writing or distilling information, in passing it on, that certain facts and figures have to be put in, certain facts have to be left out, it's in the mind of the author, for the purpose he is writing, what should go forward, some information are passed, some are left behind." (Com01_7: 10)

The knowledge DG INFSO gains access to through its boundary spanning activities with ISTC is not widely shared in the internal context of the administration. The strong reliance on informal encounters for the achievement of the delegates’ approval with regard to the annually updated work programs and the funding decisions indicates the lack of explicit efforts, procedures, and rules to facilitate the wide distribution of the acquired knowledge among the realms of DG INFSO. The linkages between the activities of ISTC and the internal dynamics miss a crucial element to enable the wide dissemination of the acquired knowledge. The policy-oriented knowledge that is provided by the committee members does not feed into internal decision-making processes that bring various subgroups of the administration together. This holds, in particular, for the achievement of approval for the annual work programs. A large proportion of officials in DG INFSO are not involved in the processes that support the finding of a compromise with the delegates with regard to the work program. The officials working at project management level, that is the project officers, do not play a role in the identification of compatibilities between the content and direction of the IST program and similar initiatives in the member states. They are not involved in the informal communication, which prepares the positive vote of the committee for the proposed work programs. Reaching agreement with the delegates is dealt with at senior and middle management levels of DG INFSO, including directors and heads of unit. A project officer therefore notes that “the level of priority about policy-design is dependent a lot on your position with regard to policy-design” (Com03_1: 8).

"There are units like F6 or F7 or groups working with directors, heads of units who are concentrating on policy issues. As a project officer I am dealing to a large extent with operating the projects … The time, which we spend on policy as project officers, on that kind of issues is limited. So I don't see the individual member state delegates." (Com03_9: 3)

The operational steps that follow the definition of the work program, that is the evaluation and selection of proposals for funding, occasionally open up possibilities for project officers to talk directly with the members of ISTC. The committee has an oversight role at this stage of the program’s implementation.

"It is important that the evaluation and the selection that you have done is done in the correct way and then it is very easy to defend it … I mean they [ISTC] don't have a problem with that because they also
see if it is done correctly and not only done correctly but also documented that it is done correctly.”

(Com03_4: 12)

The project officers respond to the inquiries of the delegates through clarification, justification and explanation. The responses of DG INFSO to the delegates’ inquiries about the regulatory aspects that govern the operation of the IST program are essentially outward-oriented modes of communication. The dominant perceptions of ISTC in the management of the program play an important role for the outward-oriented communication of DG INFSO towards the committee. The delegates are perceived as representatives of the member states, acting as interface to and control board of the governments to monitor how the Directorate General is implementing the IST program. The delegates’ inquiries are seen as instances where the reasoning behind the operational decision-making needs to be better explained to those who act at "arms-length from the Council" (Com00_1: 4) rather than as challenges to the established ways of working at project management level. Because the administration looks at its boundary spanning activities with ISTC as a way to gain legitimacy among the member state governments, it provides the delegates with information that helps them in their assessments of the administration’s implementation powers.

The creation and re-creation of relevance

Boundary spanning activities affect how DG INFSO understands its environment in the sense of acquiring knowledge that is deemed relevant for strategic and operational decision-making. But the relevance that is ascribed to the acquired knowledge is not fixed once and for all. The two cases of boundary spanning activities indicate that the initial definition of meaning by those who are directly involved becomes relative when looking at the ways in which the knowledge gains are handled and used inside the Directorate General. The ISTAG case demonstrates that DG INFSO is far from being monolithic. The relevance of the ambient intelligence vision as a major guide during work program drafting is re-created in the internal discussions that accompany its absorption, yet in different ways than initially envisaged. A major issue in the discussions about the vision is to see "from where it is coming because this clearly came from Philips. So there is some company culture also behind it, there are some corporate interests also behind it and you have to always see when you discuss how far this should influence yourself, you should know what interests are behind and what industries" (Com03_4: 1). The ambient intelligence vision is criticized for its bias towards home electronics and entertainment while it is of little use to be applied in work environments. There are critical views inside DG INFSO about the vision’s capacity to integrate the program
and to give guidance in structuring the IST field. It is considered by some people to be a fuzzy term with limited relevance for the great bandwidth of research activities to be carried out within the IST program. Accordingly,

"I strongly believe that there is no IST vision … This vision doesn’t apply to the full information society applications. It was originated from consumer electronics manufacturers view and the specific situation of the home user. So when you try to expand it and to speak of ambient intelligence as an overall structuring vision, either it totally breaks down, that is it becomes such a fuzzy term that everybody can just say: Oh, I am doing something that contributes to ambient intelligence. Or it generates relatively absurd results … I think I can even prove that it doesn’t exist because I can prove that many of the individual visions that are implemented are contradictory with each other and have not been reconciled or arbitrated in the sense that if a vision will be structuring then we will make choices to the one thing and not another.” (Com03_1: 1)

However, reference to the vision of ambient intelligence means desirable action in DG INFSO. An official explains that it “has become a mainstream philosophy and to that sense you become things more easily done if you link to that concept” (Com01_8: 11). The pragmatic use of the ambient intelligence vision is a common practice among officials in the administration.

“When you try to write something and you want to get it through, you tend also to make a relation to the ambient intelligence vision.” (Com03_4: 2)

To understand the pragmatic use of the ambient intelligence vision, reference to the other dimensions of organizational politics, namely the resources and process dimension is illuminating. The F6 unit draws on the recommendations of ISTAG as a resource to gain authority in the editing process of work program drafting. In contributing to the establishment of the ISTAG views as a major guide for the content development of the IST program, F6 gains weight among the multiple actors that are involved in this process. The units’ immediate access to the directors of DG INFSO and the ISTAG experts facilitates the establishment of the ambient intelligence vision as a major guide for work program drafting. F6 uses the plenary meetings of ISTAG and builds coalitions between the administration’s directors and the ISTAG experts to produce agreement on a rationale that binds the different parts of the program together. The involvement of the ISTAG experts in the decision-making process about the program’s strategy – a prerogative of the administration’s directors – plays an important role in the adoption of the ISTAG views by DG INFSO. “The key issue was to sell the idea to the directors, that there was something in it for them” (Com03_3: 3), an official points out. The directors take note of the ISTAG vision because it is seen as a common vision for the program that is agreed upon by the advisory group’s members with their expertise and
authority. The ensuing recommendations of the group “could cross the organization, could cross the different interests of the directors” (Com03_8: 2).

The policy-oriented knowledge DG INFSO gains access to through its boundary spanning activities with ISTC is relevant for the finding of a compromise with the national delegates when the committee’s approval to the final draft of the annual work programs is necessary. However, compromises are sought in an informal atmosphere at senior and middle management levels. A large proportion of officials have therefore a vague idea at best what policy-oriented issues concern the governments in the member states and how these are accommodated. The national delegates are perceived as not having “strong opinions about directions for research and things like that. They relay comments and criticisms from organizations in their respective states” (Com03_6: 9), while "most of the time they can't agree because they all have different interests" (Com03_4: 11). The delegates’ views on the program are not considered relevant when officials at project management level contribute to work program drafting, as the following official explains:

"It wouldn't make sense [for project officers] if you say: This would please the UK or this would please whatever. What you can do is if they are supporting a vision like the ambient intelligent vision, then we relate to the vision. And, of course, what you do is you try to find what you think or what the unit thinks is the best within the strategies or policies or visions. And then you do that and you see what ISTC is thinking about it. And basically what you see often is that, of course, when you talk to them that they, of course, think about their national interests, think about their own industry." (Com03_4: 11)

Moreover, DG INFSO involves the committee in the decision-making about the selection of proposals for funding. Their views, though, are not considered relevant because they are seen as lacking the technical knowledge on which the officials in DG INFSO draw strongly when funding decisions are taken. DG INFSO has a peer review system to evaluate the incoming proposals, for example. Making a reference to externally consulted experts “is a standard way for our justification”, as an official notes (Com01_4: 7). The usual procedure during the evaluation and selection of proposals is described as follows:

"So we organize panels of experts, independent experts drawn from the appropriate fields … This technical evaluation leads to a selection of proposals, which we do … We then draw an implementation plan, which is essentially the advice of the technical advice board but also taken on board some more strategic considerations that come essentially from our side." (Com00_4: 4)

Based on the advice of the peers an implementation plan is written by the administration’s officials and formally proposed to ISTC for discussion. The implementation plan entails a ranking list of selected proposals, which is usually cut off at the point where the allocated budget would be spent. However, the comprehensiveness of the IST program and the size of
its spending volume make it difficult for the delegates to discuss with the officials of DG INFSO, as a committee member explains:

"The more widely/open is a program, the less likely it is that the delegates are experts. They tend to be bureaucrats … I would know much better my own country because I would know all the players. So I would understand exactly the problems in a much better way. If you make a very, very large and very wide program it is very difficult for one person to be able to discuss with the Commission. The politician will not be able to discuss because he will lose any discussion with the Commission. The Commission will be an expert on what they are saying. Politicians will just say vague things." (PC5: 14-15).

To understand why the knowledge of the individual delegates to ISTC is buffered from the internal dynamics of DG INFSO it is helpful to see this process as driven by organizational politics. The monitoring role of ISTC in the management of the IST program means interest accommodation and clarification in DG INFSO. The administration draws on these understandings when it communicates with ISTC in such a way that the delegates can bring their views to bear on the management of the program at the prescribed circumstances without incorporating them. Once the work program is approved and the evaluation and selection procedure upon a given call for proposals underway is among the few instances where officials from lower management levels may talk directly with the delegates. But direct interaction does not facilitate the sharing of acquired knowledge. The inquiries of the delegates are not viewed as a resource that needs to be shared and made sense of in the internal context of DG INFSO. The technocratic decision-making process is emphasized in the dialogue with the delegates to limit the relevance of their inquiries about the operations of the program. The practice of the rules and procedures, which guide the evaluation of incoming proposals, is made transparent and explained, while the consultation of external experts which informs the ranking of the proposals on the funding list is highlighted.

**Stability and change through learning**

Organizational learning through boundary spanning activities may change the behavior of organizations towards their environments. Yet, as the empirical evidence illustrates, stability is an important ingredient of learning. Organizations draw on their memory when they learn. The organizational memory stabilizes learning processes because it is a repository of organized knowledge, including structures, rules and routines. To use and handle knowledge about external occurrences deemed relevant it needs to be related to established beliefs and practices. The ISTAG case illustrates the relationship between continuity and change in organizational learning. The incorporation of the ISTAG vision on ambient intelligence is used as an opportunity to integrate the program and to communicate a strategy to the
program’s constituency. Its adoption affects how the different contributions that feed into the annual work programs are described. Accordingly, thinking about the “work program or about next activities or what is necessary in technology, then, of course, this concept is part of the discussion (Com03_4: 2). The use of the ambient intelligence vision as a core concept in the annual work programs influences furthermore the communication with the program’s constituency. A project officer notes that he and his colleagues

"… are involved daily in discussing the Commission’s vision with our customers, with the research community in Europe who want to know where our focus is and where they would be more likely to be successful in bidding for funding for research, on what topics to choose." (Com03_9: 2)

However, reference to the ambient intelligence vision is primarily a communication issue with little relevance for how the program is carried out. The limited impact of the vision on the behavior of DG INFSO is inherent to the operational aspects of implementing the program. Operating the IST program entails the evaluation and selection of research proposals, the contracting and monitoring of research activities. It is therefore “not just the technology they [the research communities] are developing and what is happening in the technological world, but also how they perceive the difficulty of making a proposal and making the contracting and things like that. That’s the other side of the coin if you want” (Com01_10: 2). Project officers in DG INFSO, in charge of operating the IST program according to the prescribed limits in the program’s legal basis, emphasize that the ISTAG vision is less of an issue in that realm.

"We are aware of trends in the evolution of technologies and ambient intelligence is one way to present it … I don’t think that it fundamentally changes our work [in managing the operations of the program] … It probably changes our priorities and focus." (Com03_6: 2)

DG INFSO has three quite distinct cultures and work practices that are kept alive by the divisionalized form of the administration. The Directorate General manages the IST program on the basis of the knowledge and experiences that have been accumulated in the predecessor programs to IST, namely ESPRIT, ACTS and TAP. Officials in DG INFSO frequently emphasize the continued existence of different working practices in the administration that stifle coordination and communication across the departmental boundaries.

“How reviews are done, how projects are monitored, there are different cultures going. It depends if you come from ESPRIT, from ACTS, from Telematics … I mean they got a bit more streamlined, but you still see a lot of different ways of how projects are monitored depending on where the people came from.” (Com03_4: 15)

The ISTC case may be viewed as an example of a learning process that is locked into single-loop learning. DG INFSO creates new knowledge about governmental concerns and
preferences, but buffers the acquired knowledge from its internal dynamics. Acting in such ways, the administration gains legitimacy from the member state delegates for its implementation powers and preserves the stability of its operational tasks. The empirical evidence reveals that the regulation of the administration’s implementation powers is important to understand its learning behavior towards the monitoring body ISTC. The regulation of the administration’s management task – as laid down in the legal basis of the IST program – shapes its memory. Looking at the changes in the regulatory framework between the 4th and the 5th framework program highlights the impact of the legal basis on the learning behavior of DG INFSO. The previous framework program entailed more opportunities for the member state delegates to bring their views to bear on the management of the predecessor programs to IST, including ESPRIT, ACTS, and Telematic Applications. A broader range of activities required a positive vote of the national delegates, namely the definition of the calls for proposals and the selection of proposals. An official of DG INFSO puts the changed rules of the game in cautious terms, explaining that “historically they had perhaps more influence than they do now because historically this area of research was three programs … There was much more scope for member states’ individual interests to be taken into account” (Com00_4: 3).

The member state delegates tend to look at the regulatory changes more critically than the officials of DG INFSO do because it implies a weakening of their decision-making power. “The member states have lost most of their decision-making power in the 5th framework program because the rules have changed … That means that many, most of the proposals do not require an opinion … We are informed, of course, but we don’t have a saying.” (PC5: 12)

The tendency among the officials of DG INFSO to take the regulatory changes for granted indicates that the regulation of the program’s implementation establishes the administration’s memory. The repository of organized knowledge enables DG INFSO to create discretion from the member state delegates’ oversight role in the management of IST. It helps the administration to gain access to policy-oriented knowledge that feeds into the building of compromises with the individual ISTC members and to limit the committee’s involvement to the prescribed areas. The knowledge-seeking behavior of DG INFSO fits the requirements of its operational core, namely to ensure a stable implementation of the program. Stabilizing the operations of the program is a function of pleasing the delegates with decisions that reflect their governments’ interests.
Conclusions

There are at least two inferences that can be drawn from the previous analysis about boundary spanning activities, organizing processes, and learning. First of all, the social constitution of the focal organization’s boundary spanning activities is an important determinant for the rise of distinctive qualities of learning. The way in which the Directorate General for Information Society draws on the differences in the functional differentiation and formalization sheds light on its agency as supranational technocracy and politicized bureaucracy. The administration uses the boundary spanning activities with external stakeholders as a means to establish itself as an actor towards its environment. It is a supranational technocracy when it accumulates advice that is considered objective and technical to shape the deliberative framework within which policy decisions are taken (see Fischer 1990; Peterson/Sharp 1998). The pairing of competent specialists with bureaucrats who trust them is encouraged because of similarities in values and styles (March/Olsen 1989). The technocratic properties of the Directorate General are intimately linked with its power of initiative as it strives for collective solutions at the European level (see Laffan 1997; Metcalfe 1996).

Because of proliferating boundaries, playing a role in effectuating both change and stability, the evidence points in a different direction as well. The boundary spanning activities with national delegates enable the Directorate General to act as politicized bureaucracy. They provide the administration with a conduit for the absorption of and alignment with governmental interests and preferences (see Christiansen 1997). The tension that arises from the duality of having to respond to the specific requests from national governments and of providing public administration is handled through buffering (Thompson 1967). Knowledge that relates to national and political considerations is of limited relevance for the staff of the focal organization if strong degrees of specialization and the rigidities of the aquis communitaire dominate its daily activities.

The second inference that can be drawn relates to theory development in the learning discourse. The learning perspective on boundary spanning activities reveals organizations’ capacity for agency by drawing attention to the question how openness towards new knowledge is achieved and handled in processes of organizing. It deals with a problem that is faced by many organizations, namely how to address dynamism, multiplicity, and variety in their environments (Easterby-Smith et al. 2000). To think of organizational learning in terms of both processes and outcomes may be an important starting point for stimulating the
learning discourse that tends to equate organizations with firms in western societies (Berthoin Antal et al. 2001b; Ventriss/Luke 1988). The present analysis about learning processes in a supranational organization indicates that it benefits from conceptualizing the underlying social and cognitive mechanisms in analytical constructs that are born of the dominant concern with firms in the learning discourse. Yet the outcomes of learning are different in political and/or public organizations if compared with private companies (see LaPalombara 2001). Comparative research in different organization types is therefore necessary to relate the mechanisms that drive organizational learning with organizations’ capacity for agency and the socio-political context in which they are embedded.
References


