

**TECHNOLOGY ADAPTATION AND BOUNDARY MANAGEMENT IN
BONA FIDE VIRTUAL GROUPS**

A Dissertation

by

HUIYAN ZHANG

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2005

Major Subject: Speech Communication

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Chair of Committee,	Scott Poole
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ABSTRACT

Technology Adaptation and Boundary Management

in Bona Fide Virtual Groups. (December 2005)

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In this research project composed of multiple case studies, I focused on how bona fide virtual groups appropriated multiple media to facilitate group boundary construction and boundary management, which are preconditions of group identity formation.

Specific topics explored in the study included how virtual groups socially constructed their group boundaries through recurring patterns of media use as well as other communication practices, how the group boundaries were preserved and blurred in both internal and external communication, and how bona fide groups managed dialectal tensions in interacting with external groups.

To explore those research questions, I conducted four in-depth case studies of real life groups operating in natural contexts. Multiple qualitative methods of data collection were employed in the study and a modified grounded theory method was used in analyzing the collected data. As a result, the study found that the groups studied constructed group boundaries through communication practices such as making sense of

common goals, negotiation of task jurisdiction with other interlocking groups, distinguishing patterns of ingroup interaction from those of outgroup interactions, and through developing group specific patterns and norms of media combination and media use. Group boundaries were preserved when the influence of outgroup members were constrained through media use, such as excluding them from team conference calls, filtering messages from external groups or members, and using boundary spanners to interact with external members. Group boundaries were blurred when intergroup communication impacted internal dynamics and when norms and practices were transferred from other contexts into a given group context. The study suggested that technology adaptation and boundary management occurred simultaneously. In addition, the groups experienced dialectical tensions in face of the permeability of group boundaries and developed communication tactics to deal with those tensions. Theoretical implications of the study were also discussed.

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Thanks to the participants in this project, who generously spent time talking with me and providing me opportunities to conduct lengthy field observations. Their insightful ideas gave birth to this project and the time and effort they put into the study are greatly appreciated.

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CHAPTER I

INTRODUCTION: THE RATIONALE OF RESEARCH

In her seminal article “Globalizing Organizational Communication,” Stohl (2001) forcefully argued for the trend of globalization and its impact on evolving organizational forms and communication practices. One of the consequences of global competition and economic pressure is the emergence and rapid growth of various new organizational forms, which were developed as a result of adaptation to the changing faces of the external environment. Concurrently, new Information and Communication Technologies (ICT) have enabled and contributed to the spread of the new organizational forms. In effect, ICTs have dramatically changed our conceptions about work and organizing in the conventional sense. Envisioning future global network organizations, for instance, Jarvenpaa and Ives (1994) concurred, “Tomorrow’s successful organizations will be designed around the building blocks of advanced computer and communications technology” (p. 25).

Enabled by information and communication technology, organizations today operate across time and geographical boundaries. As a global organization, for instance, a public relations firm (included in this research project) based on a major city on the east coast of the country has dozens of satellite offices across the globe. As a result, organizational training rarely occurs among collocated employees only. Instead, on a

This thesis follows the style of *Communication Monographs*.

typical day, Andy, an experienced training facilitator, uses the newly introduced WebEx technology to facilitate external consultants to provide training to organizational members from Munich, Atlanta, San Francisco, Pittsburgh, Toronto, London, Chicago, Los Angeles, Washington DC, Dallas, Sao Paulo, Costa Rica, New York, Madrid, and Mexico City. WebEx allows those participating in the training session to watch power-point presentations online, to interact with each other verbally, and to take part in quick online surveys and get statistics in seconds. In addition, transforming into a knowledge-based organization, the PR firm relies on new technology to harness knowledge worldwide. It adopts a “best team” approach in structuring its work, which means no matter where the employees are located, those who have the best expertise and experiences of a given project will be put together and collaborate across distance to get a project done. In another case, I walked into the office building of a major financial group (also included in this study) in the nation, full-equipped videoconference room became a typical scene among other face-to-face huddle rooms and conference rooms. Although most of its employees work from two major cities on the east coast that were only a hundred miles apart from each other, technology has become a norm in the organization’s daily operations.

As a result, quite frequently, organizational members today find themselves working with dispersed team members and relying on electronically-mediated technology to interact and coordinate their work. Therefore, virtual groups, replacing

conventional face-to-face teams, have become the building blocks of organizations of various types and sizes. As Pauleen (2004) claimed, facing external pressures, organizations today are almost compelled to use virtual teams “by default.” In addition, as Lipnack and Stamps (1997) predicted, the trend will continue in the coming decades for several reasons, including globalization of economy, the advance of information technology, the rise of new organizational forms, and the emerge of teleworkers who enjoy the convenience of working from home (Poole & Zhang, 2005).

While researchers lamented the paucity of studies on virtual groups a decade ago, the situation has been dramatically improved in recent years. In particular, the past several years witnessed a dramatic increase in virtual team studies (e.g., Aubert & Kelsey, 2003; Bell & Kozlowski, 2002; Connaughton & Daly, 2004; Cramton, 2001, 2002; Dube & Pare, 2004; Gibson & Manuel, 2003; Gluesing et al., 2003; Hart & McLeod, 2003; Jarvenpaa & Shaw, in press; Massey, Montoya-Weiss & Hung, 2003; Pauleen, 2003b), which contributed significantly to our understanding and knowledge of virtual team processes. Various subjects on virtual teams have been explored by researchers from different academic disciplines, including social cognition (e.g., Cramton, 2001; Fernandez, 2004; Kayworth & Leidner, 2001-2002; Panteli, 2004), trust and relational communication (e.g., Jarvenpaa, Knoll & Leidner, 1998; Jarvepaa & Leidner, 1999; Walther, 1995; Walther, 1996), leadership effectiveness (e.g., James & Ward, 2001; Kayworth & Leidner, 2001/2002; Leonard, Brand, Edmondson, & Fenwick., 1998), conflict process (e.g., Montoya-Weiss, Massey & Song, 2001),

communication process (e.g., Cramton, 2002), and virtual team patterns and effectiveness (Manzevski & Chudoba, 2000) (for a more complete review, see Poole & Zhang, 2005).

Nevertheless, in their introduction to a special issue of *Organization Science* on communication process in virtual organizations, DeSanctis and Monge (1999) bemoaned the lack of studies of communication process within virtual organizations. As Manzevski and Chudoba (2000) pointed out, the most common theme in studying distributed teams is a comparison of team effectiveness between technology mediated groups and conventional face-to-face groups (e.g., Hollingshead et al., 1993; Ocker et al., 1998; Smith & Venecek, 1990). In terms of gaps in our knowledge of virtual groups, Poole and Zhang (2005) further suggested the following areas as in need of research: power dynamics, media switching and combination, the effect of external linkages on internal group processes, and phases of virtual group development. I intend to partially address those weaknesses in the current study, particularly with regard to the lack of research in media combination and the connection between external linkages and internal processes in virtual group studies.

First, as Poole and Zhang (2005) suggested, we lack knowledge of the effect of external linkages on virtual team processes. The field of small group studies has been transformed in recent years, with increasing attention given to the study of naturalistic groups in context (Frey, 1994, 2003; Putnam & Stohl, 1990). Departing from traditional group research relying on studies of small groups in laboratory settings, studies of real

life groups in context allow researchers to gain a more situated understanding of group processes, since real life groups carry histories and are embedded in social, historical, cultural, and economic contexts as well as intergroup systems. Putnam and Stohl (1990, 1996) articulated a theoretical perspective, namely, the bona fide group perspective, as a guiding framework for systematic studies of naturalistic groups, which generated numerous research in both traditional face-to-face and virtual groups (most studies were included in Frey, 1994 & 2003). The authors strongly critiqued the use of a container metaphor in small group studies and suggested that real life groups have fluid and permeable boundaries, which are socially constructed in both internal and external interaction.

Limited by their conceptualization of groups similar to containers, most existing studies of virtual groups have tended to focus on internal group processes by stressing how multiple boundary crossings (i.e., geographical, cultural, organizational boundaries as well as crossing time zones) lead to challenges in internal group processes, such as social cognition, internal interaction, relational communication, conflict management, leadership styles, etc. (Poole & Zhang, 2005). Few existing studies of virtual groups (Alexander, Peterson, & Hollingshead, 2003; Fernandez , 2004; Krikorian & Kiyomia, 2003; Meier, 2003) investigated topics such as how virtual groups are interdependent with their contexts, or how patterns of internal and external interactions contribute to boundary management and identity formation within virtual groups. Consequently, a major research question guiding this research was how virtual groups constructed and

managed group boundaries and developed a sense of “groupness.”

Another gap that this research project intended to partially fill is the lack of knowledge of the adaptation of multiple media in virtual group context (Poole & Zhang, 2005). As suggested earlier, given the lack of studies focusing on communication process within virtual teams, currently we have very limited knowledge regarding how virtual team members enact the communication process using electronic media. Specifically, in sharp contrast to the identification and recognition of the predominance of ICT as a defining feature of virtual groups, surprisingly little is known about how virtual teams appropriate multiple media, including electronic mail, voicemail, telephone, fax, teleconferencing, group support systems, etc. As Huysman et.al. (2003) indicated, there seem to be a gap between virtual team research and research in Computer-Supported Cooperative Work (CSCW). According to the authors, virtual team studies tend to ignore the process of technology appropriation within those work groups. On the other hand, CSCW researchers tend to minimize the influence of contextual and organizational contexts in their study of technology use. Although both theories (DeSanctis and Poole, 1994; Orlikowski & Robey, 1991; Postmes, Spears & Lea, 2000; Yates and Orlikowski, 1992) and empirical research (Fernandez, 2004; Manzevski & Chudoba, 2000; Zack, 1993) have suggested that context is a crucial element in understanding the use of communication technology, longitudinal and in-depth studies of specific virtual teams operating in their unique organizational and group contexts are still lacking. Therefore, adopting a structurational approach (DeSanctis & Poole, 1994; Poole

& DeSanctis, 1992; Rice & Gattiker, 2001; Yates & Orlikowski, 1992), this study focused on understandings of appropriation of multiple media in various group context (Husysman, et. al., 2003). In particular, the study attempts to enhance our knowledge of how recurring patterns of media use emerged within virtual teams through internal and external communication, which facilitated boundary management and group identity formation.

Theoretical Perspectives Guiding the Study

Two theoretical perspectives guided this research project, the bona fide group perspective (Putnam & Stohl, 1990; Stohl & Putnam, 1994) and structuration theory (Giddens, 1984; DeSanctis & Poole, 1994). A brief introduction of both theories is provided below, with more detailed discussions presented in Chapter II. First, the bona fide group perspective was proposed over a decade ago (Putnam & Stohl, 1990, 1996; Stohl & Putnam, 1994, 2003) and has since informed and generated numerous studies of both conventional and virtual teams (e.g, Frey, 2003). Departing from the traditional container metaphor traditionally used in studying small groups, the bona fide group perspective provides fresh insights into understandings of naturalistic groups. According to Stohl and Putnam(1994), researchers should not be content with merely studying groups in their contexts, instead, they should embrace new perspectives in conceptualizing groups. The bona fide group perspective views group boundaries as being socially constructed in interaction. The perspective also stresses the permeability

of group boundaries as well as the influence of external interactions on internal dynamics.

In addition, the structurational approach provides another guiding framework for this research project. Existing media theories such as Social Presence Theory (Short, Williams, & Christie, 1976) and Media Richness Theory (Daft & Lengel, 1984) have been criticized mainly on the ground that these theories (Fulk & Collins-Jarvis call both “Media Capacity Theory”) assume that media have objective features and tend to minimize the contingent effect of contextual conditions on media choice and media use (Fulk & Collins-Jarvis, 2001). Alternatively, as Rice and Gattiker (2001) argued, the features of media should be viewed as subjective and multidimensional. Therefore, the current study adopts a structurational approach in understanding media use within virtual group contexts, which places greater emphasis on context and its impact on media use, users as active agents in the process of technology appropriation, and the recursive relationship between individual behaviors and structural level changes.

The Focus of This Study

As the title of the thesis suggests, the focus of this study was on how recurring patterns of interaction developed within virtual groups for the purpose of boundary management and group identity formation. Specifically, I attempted to understand how virtual groups developed patterns and norms of media use as a means of defining, preserving, and blurring group boundaries and a way of forming group identities.

Table 1 Key Characteristics of Virtual Teams

		DEGREE OF COMPLEXITY LOW↔HIGH
The characteristics related to the basics of virtual teamwork	Degree of reliance on ICT	Low High reliance reliance
	ICT availability	High Low variety variety
	Member's ICT Proficiency	High Low
Characteristics that make virtual teamwork more complex	Team Size	Small Large
	Geographic dispersion (physical proximity)	Local Global
	Task or project duration	Long term Short term
	Prior shared work experience	Extensive No experience experience
	Members' assignments	Full-time Part-time
	Membership stability	Stable membership Fluid membership
	Task interdependence	Low High Interdependence interdependence
Cultural diversity (national, organizational, professional)	Homogeneous Heterogeneous	

Source: Dube & Pare, 2004, p. 5

At the outset, in this study, I reconceptualized virtual groups as bona fide groups (Putnam & Stohl, 1990; Stohl & Putnam, 1994, 2003). In most studies, virtual groups have been treated differently from conventional face-to-face teams due to the fact that interactions within virtual teams are predominantly mediated by communication technology. For example, in trying to define virtual groups, Dube and Pare (2004) explicitly claimed, “working predominantly through ICT” represented the key characteristic that differentiated virtual groups from conventional face-to-face groups.

The authors further identified a set of key characteristics of virtual teams (as listed in Table 1). As shown in the table, the set of characteristics focused more on internal group processes than on the external linkages.

Noticeably, however, virtual groups differ from conventional teams not only in terms of the form of communication, but also in terms of more fluidity and greater interdependency with the external environment. Enabled by the convenience of communication technology, virtual groups overcome the geographical barriers that conventional teams face. As a result, virtual groups tend to be larger in size and their membership configuration changes as the focus and needs of projects shift. Consequently, the boundaries of virtual groups fluctuate and become permeable as members join and leave. Another observable feature of virtual groups is that individuals tend to belong to multiple groups, and that this is more likely to be so than when working in conventional face-to-face teams. For example, McDonough and Cedrone (2000) argued that due to multiple and changing membership, the members of virtual teams stressed professional identity more than group loyalty. As a result, members of virtual teams may transfer experiences from other contexts (e.g., organizations, other groups) into a given group context. In addition, Hornett (2004) reported identity conflicts that virtual team members experienced as a result of simultaneously belonging to both virtual groups and traditional organizations.

Additionally, virtual groups not only tend to have more fluid membership, they are, by definition, more interdependent with the context. Often times, virtual teams are

put together for strategically important organizational tasks and in order to respond quickly to changes in external environment. That has several implications. First, virtual groups may have ambiguously defined goals, since their tasks tend to be nonroutine and challenging. As a result, team boundaries and identity are constantly structured and redefined through interactions with internal and external members and the environment. Secondly, it is not surprising for a virtual group to be an interorganizational team (e.g., Fernandez, 2004; Majchrzak, Rice, Malhotra, & King, 2000), in which understanding external linkages are as important as understanding internal group processes. Thirdly, virtual groups tend to be tightly coupled to their external environment (Bell & Kozlowski, 2002). Conceivably, virtual group members' construction and interpretation of external environment shape and redirect internal dynamics.

Therefore, in this study, attention was given to the features of virtual groups that characterized them as bona fide groups, namely, stable yet permeable boundaries and interdependence with the immediate context (Putnam & Stohl, 1990). A bona fide perspective adopted in this study allowed understandings of the interaction process within virtual groups through investigating both internal and external interactions.

In addition, the study assumed that virtual groups managed stable yet permeable boundaries through developing recurring patterns of interaction. According to Stohl and Putnam (1994), boundaries refer to "memberships in or out of a group" and "form the basis of group identity" (Stohl & Putnam, p. 286). As Frey (2003) concurred, group boundaries are constructed and reinforced through differentiating groups from other

groups and recurring patterns of interaction that create and reinforce that differentiation. In other words, boundaries are constantly structured in the process of interaction. Consequently, in this study, I focused on how virtual groups developed patterns of interaction and in particular, patterns of media use, which facilitated the social construction, definition and redefinition, maintenance, and blurring of group boundaries. I also explored how virtual groups differentiated themselves from other virtual groups through developing group specific patterns of media use. Moreover, I attempted to understand how norms of media use emerged and evolved with the virtual teams studied set boundaries for the group and facilitated identity formation

Research Questions

Through this research project, I attempted to add to our current knowledge of virtual groups through studying the communication process within a virtual group from both a structural perspective and a bona fide perspective. These two theoretical perspectives fit together really well for the purpose of this study. Bona fide group theory provides me a framework for understanding how bona fide groups are structured and the challenges and problems that they faced in terms of maintaining identity and functioning, while structuration theory addresses how they meet the problems and challenges posed by the bona fide group perspective.

Here is a list of general research questions guiding the study. How did virtual groups construct their boundaries and make sense of their collective identities? How did

patterns of internal and external interaction facilitate the formation, constant redefinition, and the maintenance of the negotiated group boundaries and as a result, lead to the evolution of group identity? With regard to media appropriation and boundary management, in interactions with the external members, how did the group manage the tension of including external members in the loop and excluding them from the group's internal process? In addition, what patterns and norms were developed, through the members' active communication behaviors, to set group boundaries? How did group-unique patterns and norms of media use developed and evolved in the interaction process give voice to group identity and thus, to differentiate a given group from other groups?

CHAPTER II

LITERATURE REVIEW

This chapter will be dedicated to a review of relevant literature that informed this study, including the bona fide group perspective, theories on media use and media adaptation, and existing virtual group studies and their findings. In discussing related literature, perspectives taken in this study will also be indicated.

The Bona Fide Group Perspective

Putnam and Stohl (1990) articulated an original framework of the bona fide group perspective over a decade ago and developed their theoretical propositions in several later studies (Stohl & Putnam, 1994; Putnam & Stohl, 1996; Stohl & Putnam, 2003). The authors challenged the status quo of small group research and called for a reconceptualization of naturalistic groups. In proposing an alternative framework for small group studies, the authors rejected the traditional notion of group boundaries as fixed and taken for granted. Instead, they problematized group boundaries and argued for the permeability, fluidity, and blurring of group boundaries. In addition, according to the authors, group boundaries should not be viewed as something reified in communication. Rather, they are socially constructed through recurring patterns of interaction. In other words, a group is defined through repetitive patterns of behaviors that become interdependent and structured (Putnam & Stohl, 1996).

Departing from the a container metaphor traditionally used in small group

studies, the bona fide group perspective views real-life groups have two defining features, namely, stable yet permeable boundaries and interdependence with their immediate contexts. Stohl and Putnam (1994) defined “permeability” as referring to “the fluid and dynamic nature of individual membership in groups (p. 286)”. Permeability of group boundaries occurs through several means, including “(a) multiple group memberships and conflicting role identities, (b) representative roles, (c) fluctuations in group membership, and (d) group identity formation” (Putnam & Stohl, 1996, p. 150). When an individual possesses multiple memberships and multiple identities, it is likely that he/she transfers roles from one context to another context. In addition, there may be conflict between identities. Multiple memberships also imply that in one group, an individual member may be expected to represent another group in which he/she simultaneously has membership. Group boundaries fluctuate as a result of rotation of members and turnovers. Lastly, due to multiple memberships, individuals may vary in the degree to which they identify with a given group.

Another defining feature of bona fide groups is interdependence with their immediate contexts, by which Stohl and Putnam (1994) stressed a reciprocal relationship between a given group and the environment it is embedded in. In other words, groups influence and are influenced by their surroundings, including the intergroup system, the social, historical, cultural, and economic contexts. Putnam and Stohl (1996) suggested that interdependence occurred through “(a) intergroup communication, (b) coordinated actions among groups, (c) negotiation of jurisdiction, (b) interpretations or frames for

making sense of intergroup relationships” (p. 153).

The above discussions of the defining features of bona fide groups have several specific implications. First, the bona fide perspective recognizes the influence of individuals who are outside the group but are influential to internal group process. Similarly, the bona fide perspective acknowledges “connectivity” (Putnam & Stohl, 1990) with both immediately and not immediately related groups and their impacts on internal dynamics. Secondly, the perspective stresses multiple memberships, which means that individual members can serve as boundary spanners or environmental resources. Thirdly, in terms of permeability, the bona fide perspective recognizes that in any group context, individual members may transfer or enact roles from other contexts into the specific group context. As Putnam and Stohl (1990) suggested, “role relationships may be influenced by title, prestige, or status imported from the environment into the group” (p. 257). Lastly, with regard to fluctuating membership, the bona fide group perspective indicates that when new members join a group, they bring in new information and perspectives, through which they function to keep the boundaries permeable. Additionally, the acculturation process will reproduce existing norms, practices, and interaction patterns and therefore, keep the boundaries stable.

The bona fide group perspective has informed and generated empirical research, which applied the theoretical perspective to studies of both face-to-face and online groups. In particular, in his edited book, Frey (2003) included three studies of mediated groups as bona fide groups. For instance, Alexander, Peterson, and Hollingshead (2003)

studied online support groups, in which they found the existence of boundary spanners significantly impacted group processes. Through multiple memberships and providing referrals to other sources, the internal processes were linked to the groups' external environment. In addition, greater satisfaction was found in the group whose boundaries were less fluid. In a separate study, Krikorian and Kiyomiya (2003) examined newsgroups as bona fide groups. Their study explained how newsgroups could survive or die depending on both internal factors (message participation and threads) and external variables (spam and crossposts). The authors concluded that a newsgroup's ability to respond to external forces that threaten group stability was critical for its survival. Lastly, through micro analysis of transcribed notes taken from a videoconference meeting in a virtual team, Meier (2003) studied how a sense of "groupness" was achieved in communication practices. All three studies highlighted the significance of a bona fide group perspective to studies of mediated groups through showing how the group boundaries of these groups were constructed in communication and how external linkages affected internal group processes.

As the above discussions indicated, the bona fide group perspective is a fruitful theory in terms of the number of research it has generated. Nevertheless, one thing omitted from bona fide group theory is an account of how groups respond to their contexts and the challenges that boundary management, fluid membership, and other features the theory posed. This study utilized the structural perspective as a framework for understanding how bona fide virtual groups respond to the demands of

the bona fide group context. For instance, the study suggested specific tactics of media use that the groups studied used (such as leaving a daily voicemail to the senior management of other related groups, keeping two separate email lists, one for internal communication, the other one also included the members of external groups, etc.) to maintain and blur group boundaries simultaneously. In addition, the study focused on norms of media use that emerged within the context of each group as a way of boundary setting and expression of a group identity. Details of the structuration theory will be discussed below.

Theories on Media Choice and Media Use

Over the past two decades or so, multiple approaches in theorizing media choice and media adoption in organizations emerged and evolved, with recently developed theories exhibiting drastically different conceptualizations of those phenomenon from early research. In general, theories of media adoption in organizations have evolved from emphasis on the objective features of communication technology to a more subjective view, and from stressing task characteristics solely to considering multiple and mutually influencing contextual constraints. This trend indicates that increasing attention has been paid to understanding patterns of media choice and media use with regard to users' habitual patterns of interaction behaviors in context. In the following section, specific theories representing the evolution of perspectives and conceptualizations will be reviewed.

Social Presence Theory and Media Richness Theory

Social Presence Theory (Short et al., 1976) argues that media differ in their capacity to carry non-verbal cues, such as facial expressions, direction of gaze, posture, dress, physical appearance, proximity, and orientation (Fulk & Collins-Jarvis, 2001). The presence or absence of those nonverbal signals normally determines the degree of salience of other people and interpersonal relationships. Media richness theory (Daft & Lengel, 1984), on the other hand, argues for a fit between media and task. According to the theory, media have varying capacities to carry communication cues, with richer media able to carry more complex cues (Fulk & Collins-Jarvis, 2001). Consequently, there should be a match between media richness and equivocality of tasks. Leaner media are good for routine tasks, which do not require much communication or coordination, while more equivocal tasks necessitate the use of richer media.

Media capacity theories are premised on objective media features, which were challenged by researchers from other perspectives, particularly by those from the structural perspective. Media Richness Theory, for instance, has been criticized for various reasons (Fulk & Collins-Jarvis, 2001), including the minimization of the contingent effect of contextual factors, its view of tasks characteristic as unmalleable, and its tendency to ignore groups' active role in managing technology. In addition, inconsistent evidences were found through empirical research. Fulk (1993), for instance, found that shared meanings and behavioral patterns in workgroups are more important

predictors of the use of communication technology than media richness-related variables such as task routineness. In addition, Ngwenyama and Lee (1997) suggested that communication richness emerged during interactions as a result of the interaction between people, medium, and social or organizational context.

The Multidimensional Features of Communication Technology

Existing theories of media choice and media use tend to oversimplify structural features of media and minimize the dynamic use of multiple media in organizations (Boczkowski & Orlikowski, 2004; Rice & Gattiker, 2001). As Rice and Gattiker stated, existing media theories such as media richness theory (Daft & Lengel, 1984) tend to oversimplify multidimensional characteristics of media and use binary categories such as rich versus lean, traditional versus new, interpersonal versus mass media to distinguish one media from another. Along the same vein, Boczkowski and Orlikowski (2004) criticized the tendency to segment media and to use face-to-face interaction as the benchmark to evaluate electronic media.

In reality, media can be compared on multiple dimensions and media use is complicated by various social, organizational, and technological constraints. Rice and Gattiker (2001) stressed the appropriateness of a multidimensional perspective to conceptualizing media by commenting that “all media may be perceived, constrained, adopted, used, and evaluated in different ways within social and technological constraints” (p. 547). Some of the dimensions and attributes that Rice and Gattiker listed

include organizational norms for media usage, source or centrality of control, ease of access to physical location, physical device, geographical proximity, privacy concerns, limits to message length, ability to transfer documents, bandwidth, ability to convert content to other medium, ability to store message, critical mass as prerequisite, symbolic aspects of medium, symmetry of initiation and response, etc. They differentiated media on these dimensions for the purpose of illustrating the complexity of media use. For example, email systems, which are often treated as one technology, may differ on some dimensions. In practice, electronic mail can be used to document internal events and outcomes, to pass on information, to brainstorm ideas and conduct threaded discussions, to solicit feedbacks, or be used as a scheduling tool or a chatbox (Postmes et al., 2000). Various users can utilize the embedded structural features of electronic mail at different levels, depending on their conception and knowledge of those structural features, exploration with the technology, and the learning experience with others (Rice & Gattiker, 2001).

In addition, Boczkowski and Orlikowski (2004) acknowledged the complexity and dynamics of media use in organizations as a result of “situated human actors’” use of “intersecting, overlapping, and dynamic arrays of multiple media” (p. 362). In reality, it is a norm rather than exception that members use multiple media instead of a single medium for communicating the same message. For example, Cameron and Webster (2005) found “polychronicity” in using instant messengers, which means IM use often occurred when “one or both of the conversants were using IM at the same time as

another communication medium” (p. 96). In addition, the authors reported that IM was used as additional means to reach others instead of as a replacement technology.

Contextualizing Media—A Structural Approach

One implication from a multidimensional perspective on media, as Rice and Gattiker (2001) pointed out, is that perceptions of media as well as habitual patterns of media use are constrained by organizational structures, social/cultural structures that organizations are embedded in, as well as technological infrastructures within particular organizations. Their observations suggested a structural perspective of studying information technology in organizations. Structuration theory (Giddens, 1984) acknowledges the active role of human agency in producing and reproducing social systems and in the meanwhile, stresses the influence of preexisting structural properties in institutional systems and organizational environment. Structuration refers to the process of production and reproduction of social systems through members’ application of generative rules and resources, or structures (Poole & DeSanctis, 1992).

Structuration theory departs from media capacity theory in its emphasis on the subjective features of technology and more importantly, its view of context as critical to technology appropriation. As Majchrzak et. al. (2000) suggested, a structural approach to technology adoption stresses how technologies are "structured in their context of use," how users can "manipulate and reshape" those technologies for their own purposes, as well as the uses draw on rules and resources from "the particular social

contexts within which they work (p. 570)."

Structuration theory has gained increasing research attention in recent years (e.g., DeSanctis & Poole, 1994; Orlikowsky & Robey, 1991; Poole & DeSanctis, 1992; Yates & Orlikowski, 1992). For example, adopting a structurational approach to studying media and organizational communication, Yates & Orlikowski (1992) introduced the concept of *genre*, which was defined as "typified communicative actions characterized by similar substance and form and taken in response to recurrent situations" (p.299). Examples of genres include organizational meetings, recommendation letters, memos, and proposals.

More importantly, DeSanctis and Poole (1994) developed Adaptive Structuration Theory (AST), which borrowed ideas from structuration theory and focuses more on the mutual influence between technology and social processes. As the authors observed, patterns of technology use in context may vary and differ from how they are intended to be used, since users adapt systems to their particular work needs--they may choose to appropriate certain features while leaving others unrealized, or they may resist them and fail to use them at all (DeSanctis & Poole, 1994; Poole & DeSanctis, 1992). Advanced information technology can be implemented in various ways due to the fact that most systems are "sets of loosely bundled capabilities" (Guttek et al. 1984, p. 234 as cited in DeSanctis and Poole, 1994) and have "structural potentials" (p. 127) and users can actively select how certain features are used. Poole and DeSanctis (1992) refer to the "array of structures available to its system" as *structural potentials*, whereas they use the

team *structure-in-use* to refer to the specific structures that are appropriated (p. 11). *Structure-in-use* defines the range of possible actions in group processes. For instance, Karsten (1999) analyzed 18 case studies of use of Lotus Notes, a popular groupware designed to promote collaboration at work. As a result, the study identified three broad categories of Notes use: exploratory use, well-planned core applications, and extensive and engaged use of Notes (Karsten, 1999). Structuration occurs when users appropriate certain features such as brainstorming and voting and strive for a spirit of efficiency or democracy. Emerging structures may be over time through users' use and reuse of emerging rules, which may trigger organizational change with regard to rules, modes of conduct, and power structures.

AST stresses how preexisting structures in context constrains patterns of technology appropriation and the three sources of preexisting conditions include technology's structure, task and organizational context, and group's internal structure (DeSanctis & Poole, 1994; Majchrzak et al., 2000). Structural features refer to the set of capabilities offered by the system as well as its *spirit* (the general intent regarding how to use the technology and a set of values or philosophy of use). Some examples of dimensions characterizing the "spirit" of technology's social structures include efficiency (whether the interaction period should be shorter or longer than interactions where the technology is not used) and atmosphere (the relative formality or informal nature of the interaction, whether the interaction is structured or unstructured). Task and organizational context refer to the nature of tasks, the existence of competing or related

tasks, corporation information, cultural beliefs, modes of conduct, and so on. AST stresses the fact that tasks may be rationalized or redefined in the process of technology appropriation. In order to meet each group's subjective goals, groups attempts to "jointly maximize task, technology, and group structures through appropriation, production, and reproduction processes (Fulk& Collins-Jarvis, 2001, p. 638)." Group internal structures refer to interaction patterns and decision processes within a particular group (Majchrzak et al., 2000). Factors from the group's internal system that may influence the appropriation of structures include members' style of interacting, members' degree of knowledge and experience with the structures embedded in the technology, the degree to which members believe that other members know and accept the use of the structures, and the degree to which members agree on which structures should be appropriated (DeSanctis & Poole, 1994).

Virtual Team Studies

Definition of a Virtual Team

Virtual teams have been defined by both researchers and practitioners (e.g. Bell & Kozlowski, 2002; Gibson & Cohen, 2003; Knoll & Jarvenpaa, 1998; Lipnack & Stamps, 1997; Windsor, 2001). Researchers generally agree that virtual teams vary in form and most virtual teams are virtual in degree only. A virtual team could be a group of software design engineers scattered around different corners of the globe, who work around the clock. It could also include subgroups of collocated members dispersed in

various domestic locations or even adjacent buildings. Dube and Pare (2004) discussed the key defining features of virtual teams. First, similar to conventional face-to-face teams, virtual teams are goal-oriented entities and the members of virtual teams work, interact, and collaborate to achieve certain common goals (Lipnack & Stamps, 1997; Poole & Zhang, 2005). Virtual team members normally possess complementary knowledge and skills and they hold each other mutually accountable for outcomes of their collaborative work. Additionally, a key defining feature of virtual teams is that the interaction process within virtual teams is predominantly mediated by a variety of information and communication technologies (Dube & Pare, 2004). Depending on the extent of geographical dispersion, most virtual teams still use face-to-face meetings to various degree and sometimes, among subsets of the team members. Nevertheless, all virtual teams rely primarily on ICTs to coordinate team interaction, including phone, email, teleconference, videoconference, fax, and various integrated collaborative tools (Poole & Zhang, 2005). All other characteristics of virtual teams are better viewed as variables that determine the complexity of virtual team work (Dube & Pare, 2004).

What determines the complexity of virtual team work? Dube and Pare (2004) listed the following characteristics: geographical dispersion, task or project duration, prior shared work experience, members' assignments (full time versus part time), membership stability, task interdependence, and cultural diversity (including organizational, professional, and national cultures). For instance, in terms of geographical dispersion, it is more challenging to coordinate interactions among

members of virtual team who have different time zones. The more dispersed the team is, the harder it is to use synchronous media to interact. In addition, conceivably, ad hoc project virtual teams that work on highly interdependent tasks may encounter greater challenges and experience increasing levels of complexity in comparison to ongoing groups whose work requires less collaboration. Similarly, the structure and process within virtual teams become more complex when due to differences in national, organizational, and professional cultures, members of virtual teams do not share similar cultural scripts about the work and the interaction processes.

Research on Virtual Teams

As suggested previously, the spread of virtual teams as a new organizational form has been accompanied with an upsurge of research in virtual group studies. While four years ago, Maznevski and Chudoba (2000) found only 41 studies on technology-supported distributed teams in their review of studies between 1990 and 1998, numerous studies (e.g., Aubert & Kelsey, 2003; Bell & Kozlowski, 2002; Connaughton & Daly, 2004; Cramton, 2001, 2002; Dube & Pare, 2004; Gibson & Manuel, 2003; Gluesing et al., 2003; Hart & McLeod, 2003; Jarvenpaa & Shaw, in press; Massey, Montoya-Weiss & Hung, 2003; Pauleen, 2003a, 2003b) have been published ever since. Given the space limit, in the remaining part of this section, I will focus on several aspects of virtual teaming that are pertinent to this study, including media choice, media adaptation, and external linkages.

Media choice. Consistent with Media Richness Theory (Daft & Lengel, 1984), some virtual team studies (e.g., Bell & Kozlowski, 2002; Leonard et. al, 1998) insist that task characteristics significantly impact media choice and the use of information technology. Bell and Kozlowski (2002) concurred, for example, that choice of media “should be dictated by the nature of task the team is performing” (p. 24). According to the authors, asynchronous communication media, such as email, are preferable in dealing with less complex and interdependent tasks such as idea generation, whereas synchronous media, such as videoconferencing or groupware, are expected to be more effective in dealing with complex tasks such as group decision-making. In addition, Leonard et al. (1998) noted that virtual team members used richer media when “a task required significant interaction among team members”, “participation by multiple sources”, “or resolution of discord” (p. 292). Both studies implied the deterministic role that task complexity plays in media choice.

With regard to media choice, however, more studies have turned their attention to the impact of various contextual characteristics. Consistent with Adaptive Structuration Theory (DeSanctis & Poole, 1994), for example, Maznevski and Chudoba (2000) explained how structural characteristics including both task and group characteristics influenced virtual team members’ media choice decisions. For example, they found that boundary spanning (organizational, cultural, and location boundaries) increased message complexity, which necessitated the use of richer media. Similarly, Pauleen (2003b) reported that both organizational and cultural factors influenced media choice. The

author also indicated that various factors, including geographical proximity, cultural preferences, technological availability, and relational needs influenced patterns of media use in the virtual teams studied.

Patterns and norms of media adaptation. Work groups in organizations often times engage in collective actions toward shared goals and some level of coordination is expected in order to accomplish those shared goals. For coordination to occur, groups tend to routinize their behaviors. As Gersick and Hackman (1990) concurred, “routinization contributes to predictability.” (p. 69). Gersick and Hackman further explained, since there was inherent uncertainty and anxiety in collective work (which is a more prominent issue in virtual groups), routine patterns in doing things attenuated those uncomfortable feelings and made other members’ behaviors predictable. Once such routines are established, they tend to subject members to normative control, that is, group norms can add pressure to compel members to adhere to them (Gersick & Hackman, 1990).

Virtual teams rely primarily on electronically mediated interactions to coordinate actions among the team members. As a result, Cuevas et al. (2004) argued, since electronic interactions lack various social and contextual cues, interaction within virtual teams necessitates explicit coordination strategies. Consequently, patterns and norms of media use emerge within virtual groups for the purpose of organizing and coordinating behaviors among group members. In addition, consistent with structural theory, empirical studies suggested these patterns and norms tended to

vary from group to group, as a result of the influence of multiple contextual factors and the structural moves the users made in appropriating communication technology.

With regard to routine patterns of media use within virtual teams, as indicated previously, few studies have examined the process of technology adaptation within geographically dispersed groups. Existing studies, however, did suggest how virtual teams developed their own patterns of media use, which influenced and were influenced by "various context dependent conditions" (Huysman et. al., 2003, p. 414). Taking into consideration "a complex mixture of mutually influencing factors" (p. 414), for instance, Huysman et al. (2003) focused on routine patterns of media use in virtual teams in terms of what media were used, how they were used, and for what purposes. The study found the six virtual teams studied appropriated available technologies such as videoconferencing, email, and TeamScope in group-specific ways. For example, some groups used the media to communicate just enough for task completion, while others used video to socialize. Some teams used videoconferencing sporadically, while others used it routinely. Additionally, Postmes et al. (2000) reported variations in both content and style of email messages between groups. In particular, the groups studied differed in the "number of requests, reactions, humor, emotion and affection, and personal revelations they deployed" (p. 353).

Knoll and Jarvenpaa (1998) concluded, regardless of whether they are explicitly told to or not, virtual teams invariably made conscious efforts to set up rules and norms. The norming process is an important aspect of any group development model

(Graham, 2003; Tuckman, 1965) and it is more crucial for virtual teams for two reasons. First, virtual teams rely primarily on electronic communication, which is inherently more ambiguous and is more likely to give rise to coordination problems in the process (Cramton, 2002; Cuevas et al., 2004). Secondly, unlike conventional face-to-face teams, pre-established norms and expectations regarding the process of electronic interaction rarely exist in virtual teams (Armstrong & Cole, 1995; Leonard, et al, 1998; McDonough & Cedrone, 2000; Postmes et al., 2000, Zigurs, 2003).

Regardless of the significance of the establishment of norms in virtual teams, few studies have examined how norms evolve in those teams. There are two exceptions. One is Graham's (2003) study, in which Graham focused on the norming process in computer-mediated groups. Acknowledging the need to understand norm development in virtual teams, Graham reported how both general (e.g., "communicate frequently." "pull your weight") and operationalized norms (e.g., "Check and respond to email daily," "take initiative, don't wait to be told what to do") are developed in student learning groups and the two types are developed in a cyclical pattern. In addition, Postmes et al. (2000) studied student groups using email for group interaction. They found variation in technology use between groups and temporal changes within groups as a result of normative influence.

DeSanctis and Monge (1999) predicted, "participants in virtual relationships may do well to make communication norms explicit in advance and to establish procedures for reconciling differences in communication practices that emerge as they do

business across multiple boundaries” (p.698). There are several ways that groups norms can develop, including importing norms from organizational and social contexts, explicit statements by supervisors or co-workers in the early stage of group formation, critical events in the group’s history, and carry-over behaviors from past situations (Feldman, 1984; Gersick & Hackman, 1990). First, since work groups are often embedded in organizational contexts and larger social environments, members know how they are supposed to act with regard to surrounding norms. In terms of electronic communication, DeSanctis and Monge (1999) pointed out, contrary to our previous conceptions that electronic communication is stripped of context, it is “heavily influenced by surrounding social norms” (p. 698). Fulk and DeSanctis (1999) claimed that previous research (Bikson & Eveland, 1990; Fulk et al., 1990) found that “formal and informal organizational policies regarding use of electronic mail systems constrained usages to existing communication norms” (p. 16). Similarly, according to Gersick and Hackman (1990), when organizations have strong cultures and ideology, they are likely to import norms from organizational settings into group process.

In addition, virtual team studies (Armstrong & Cole, 1995; Leonard et al., 1998) indicated that leaders played the role of norm setters and facilitated norm development and the formation of routine practices early on. For example, Armstrong and Cole (1995) found that leaders articulated specific video-conferencing norms such as how to structure the meetings, where to point the cameras, who controlled them, and how to talk in conferences, and therefore, team members reached consensus regarding how to use

technology. Other times the members of virtual teams may come up with explicit statements of norms of technology use themselves. For example, James and Ward (2001) reported that the global virtual team they studied purposefully set up ground rules for their email communication and phone conferences. For instance, their phone conference rules required team members to be explicit of topic and outcome required and to allocate precise timing for each topic for discussion. Group rules for email states, “if decision date is passed with no comment, then the decision is agreed” (p. 155).

Moreover, studies of conventional teams also indicated both critical events and carry-over behaviors from past situations could influence the process of norm development (Feldman, 1984). For example, Feldman discussed how group members’ professional identifies and past experiences influenced their expectations for the work process and the interaction patterns. Conceivably, due to the prevalence of multiple membership and fluctuating and permeable boundaries (Putnam & Stohl, 1990) within virtual teams, it is natural to expect professional identifies, past experiences, and multiple organizational affiliations to influence what norms that virtual team members bring to a given group context.

External linkages. As discussed previously, very few studies examined the process of virtual teaming with consideration to external linkages. Nevertheless, the existing research (e.g., Fernandez, 2004; Hornett, 2004) highlighted the significance of external factors to internal processes within virtual groups. For example, Fernandez studied an interorganizational virtual team that included team members from three

organizations and based in three different countries. As a result, he reported that organizational fragmentation in terms of goal incongruence and differences in mental models made collaboration across organizational boundaries difficult, particularly with respect to trust building. In addition, Hornett (2004) examined the impact of external factors on virtual teams and concluded that dynamics outside the virtual project teams studied powerfully affected the teams as they were subject to priorities and resource commitments existing outside the teams.

Group Norms, Boundaries, and Identities

According to Graham (2003), there are dozens of definitions to describe norms, among which “oughtness,” “shared frames of reference,” and “rules of conduct” are the most commonly used. For instance, Sherif (1936) explained that norms are shared frames of reference that members can rely on in interpreting situations and making decisions in times of uncertainty. Additionally Feldman (1984) defined group norms as “the informal rules that groups adopt to regulate and regularize group members’ behavior” (p. 47). To synthesize previous definitions, in this study, interaction norms are defined as “*both explicit and implicit expectations shared by members of a group that help to regularize routine communication practices and explain members’ course of actions in interacting with each other.*” Group norms define how a member should think, feel, and behave in a given group context.

Group norms are inextricably linked to a group’s identity. As Feldman (1984)

claimed, “enforcing group norms give group members a chance of express what their central values are, and to clarify what is distinctive about the group and central to its identity” (p. 48). In addition, Postmes et al. (2000) suggested observations of consistencies in virtual group interaction patterns allowed inference of group norms and identity. In addition, the authors indicated the following assumption in examining norm emergence in virtual groups:

...each group will have its own distinctive consistencies, which may be the consequence of the development of group norms (Postmes et al), structuration (e.g., Poole & DeSanctis, 1990), and the active construction of the technology (e.g, Fulk, 1993) (p. 347).

Group norms are not only linked to group identity, they also set boundaries for groups. As Feldman argued, as group norms suggest the range of acceptable behaviors to a given group, they indicate the “boundaries” of a given group. Members of deviant behaviors could be rejected out of a group. Therefore, discussions of norms allow a group to identify ingroup members and outgroup members. In addition, through their empirical study of virtual groups, Postmes et al. (2000) suggested interaction norms set boundaries for virtual groups in that norms that structured behaviors inside a group did not apply to interactions outside it.

The above discussions provided limited but promising support for assumptions underlying this study, namely, the linkage between group patterns and norms of media use and group identity formation and group boundary management. Distinctive consistencies in patterns of interaction as reflected in group specific patterns and norms of media use express group identity and set boundaries for virtual groups.

Summary

This chapter focused on a review of literature on the theoretical perspectives guiding the study as well as empirical research of virtual groups. Through the review, I indicated how the bona fide group perspective and structuration theory combined nicely for the purpose of this study. The bona fide group perspective suggested boundary and identity issues that groups have to deal with in internal and external interactions, that is, bona fide groups need to socially construct their group boundaries and group identities and that permeability could be a challenge for groups to maintain their distinctive identity. This study intended to investigate how bona fide virtual groups manage those identity and boundary issues raised by the bona fide group perspective through examining how these groups structure its interaction process, in particular, the process of appropriation of multiple media to a given group context. Recurring patterns of interaction facilitate construction of group boundaries as well as boundary maintenance in interaction.

In studying technology appropriation in group context, the study adopted a structural approach, which assumed variance in patterns of media use across group and organizational contexts. As empirical research of virtual groups indicated, unique patterns and norms emerged within the groups studied as a result of differences in contextual factors as well as the users' adaptation behaviors in using multiple media. The study assumed a linkage between consistencies in interaction (reflected in patterns and

norms of media use) and boundary construction and identity management. In other words, bona fide virtual groups develop group specific patterns and norms of media use, which facilitate boundary setting and expression of a distinctive group identity. For the purpose of the study, I conducted multiple case studies. I will turn to discussions of the methods of data collection and data analysis in the following chapter.

CHAPTER III

METHOD

Twenty years ago, Lincoln and Guba (1985) proposed the naturalistic paradigm as an alternative to the positivistic paradigm that had dominated social scientific research. The tenet of the naturalistic paradigm is that since reality needs to be discovered and understood in context, research phenomena need to be studied in situ. Their thought provoking work and systematic presentation of the naturalistic paradigm sparked new thinking and research in various disciplines, including the field of communication and the subfield of small group research. Consequently, since the 1990s, small group research has been marked with “growing concern with context” (Gouran, 1999, p. 18). Representative works that studied real-life groups (e.g., numerous articles published in Frey, 1994, 2003) embodied Lincoln and Guba’s original thinking and reshaped the thriving area of small group research.

An exploration of virtual groups contextually and in situ is consistent with the theoretical perspectives guiding this study. First, given my conceptualization of virtual groups as bona fide groups, the communication process within virtual groups cannot be fully understood without consideration of their immediate contexts. In addition, the theoretical perspective calls for examination of real life groups with history and external linkages. Secondly, a second theoretical perspective adopted in the study was the structural perspective, which suggests that communication phenomena in groups are

both enabled and constrained by existing social and environmental contexts. Specifically, AST indicates that patterns of technology appropriation are results of individual's interaction behaviors interacting with surrounding social and organizational structures. Therefore, I chose to examine real-life groups with consideration to multiple and mutually influencing contextual factors.

More specifically, the multiple-case method was used in this research project. The case study method is particularly appropriate for this study for several reasons. First, the case study method has been widely employed in virtual team studies (e.g. Armstrong & Cole, 1995; Cramton, 2002; Duarte & Snyder, 1999; James & Ward, 2001; Leonard, et al, 1998; Maznevski & Chudoba, 2000), partly because as researchers, we have limited knowledge about and little control over virtual team processes and because real-life context is inseparable from the phenomenon under investigation (Yin, 1994). Given the complexity of the communication process in virtual teams, the case study method is superior to other methods in answering the research questions raised in the study. As Yin (1994) claimed, case studies are the most appropriate tool for understanding “complex social phenomena” and they allow researchers to “retain the holistic and meaningful characteristics of real-life events” (p. 3). Secondly, the case study method allows an understanding of the uniqueness of each case in itself and reveals theoretical relationships *in situ*. Thirdly, comparative studies of virtual teams allowed me to compare across cases and “identify each organization's cultural and structural idiosyncrasies as well as pinpoint commonalities (Barley, 1990).” Although the case

study method has been increasingly used by virtual team researchers, a concurrent longitudinal study of several groups in context has the potential to produce more far reaching impacts.

This chapter is organized in the following way: First, I discuss the study design and the sampling criteria. Subsequently, I clarify the confidentiality measures. The bulk of the chapter focuses on discussions of methods of data collection and data analysis.

Study Design, Sampling Criteria, and Gaining Entry

In this study, I used a multiple-case study design to achieve replication and therefore, external validity (Yin, 1994). As Yin (1994) explained, the logic underlying multiple-case studies is either to predict similar results or contrasting results that could be explained and predicted by the theoretical frameworks. Guided by the bona fide group perspective, I expected bona fide virtual groups to deal with similar concerns and issues related to boundary management and identity formation through recurring patterns of interaction. On the other hand, consistent with Adaptive Structural Theory (DeSanctis & Poole, 1994), I expected group specific patterns and norms of media use to emerge in each group as a way of expressing its unique identity.

Given the nature and the goals of qualitative research, a purposeful sampling strategy was used in this study (Lincoln & Guba, 1985). In identifying particular organizations and teams to study, I used the following criteria. First, I selected “typical” cases (Miles and Huberman, 1994) of virtual teams to study, namely, teams that were

geographically dispersed and rely mainly on multiple electronic media for team interaction. I understand that the value of qualitative research lies in its “transferability” or “fittingness” instead of “generalizability.” Consequently, selecting typical cases is one of the means to increase the “transferability” of the cases studied. Secondly, in order to obtain an insightful understanding of the research questions, I chose information rich cases. Namely, I studied teams in which the defining features of bona fide groups were salient, there were multiple pathways for team interaction, and in which tasks were complex and of strategic importance to the organizations, and cultural complexity was present. Lastly, in order to compare across cases, I purposefully chose two pairs of teams to compare, with the first pair from different organizations and the second pair from the same organization. The teams in the first pair were both from industrial organizations, had similar sizes, included both collocated and dispersed members, and were embedded in very strong organizational cultures. The difference lay in their task characteristics and the length of team history. While the first pair allowed me to view how organizational culture, among other things, impacted patterns of media use, the second pair was from the same organization and allowed me to conduct intraorganizational comparisons.

Gaining entry into organizations was never an easy task. It was even more challenging due to my interest in conducting studies with industrial organizations in which time directly relates to the bottom line. Consequently, patience and perseverance became the key to finding good opportunities. I was frustrated at the beginning when my initial tries were fruitless. Nevertheless, my determination to study real-life groups

prevailed. I decided to teach full time, awaiting and actively contacting people for opportunities. Fortunately, an officemate I happened to know through my teaching position was a leader of a virtual group in a major public relations firm. I ventured my idea to him, and he was surprisingly warm and supportive to my research. The initial breakthrough encouraged me to pursue further opportunities and identify comparative cases. Having the support of my academic advisor and my family, I finally was able to gain access to four other virtual groups, three of which met my criteria for the study. One case was dropped due to the lack of complexity in its group processes.

Confidentiality Issues

To protect the confidentiality of information obtained from the participants in this study, I have not and will not disclose any information obtained for the purpose of this study. Apart from me, only the Chair of my committee was given partial access to the information collected for this study. I will not publish any article based on the collected information without prior approval of the research subjects.

Instead of identifying each subject by name, I assigned them a code that was used to refer to them in analyzing the data. No information was linked to any identifiable individual. In addition, I aggregated the data so that individual comments were made less recognizable. All interview notes, audio tapes, files on computer are safely stored in places where only I have access to. In some cases, I was allowed to access team websites or work spaces. I guaranteed that I would not give out any confidential information.

Methods of Data Collection

As a result of the negotiations I had with the participants in the study, the level of access I obtained in each case differed. Two of the four virtual groups gave me close to full access to the process of team interaction for an extended period of time. With respect to the two other groups studied, I collected in-depth interview data from both teams and conducted limited, but very helpful non-participant observation in one of the two groups. I elaborate the details of methods of data collection for each case in the following section.

Case A

Multiple qualitative methods of data collection were used in this study to achieve an in-depth understanding of the process of interaction within a research team at a major public relations firm in the nation. First, I conducted semi-structured and in-depth interviews with thirteen out of fifteen members of the team and in addition, a groupware (eRoom) expert in the organization. These interview data constituted the primary sources of information. In addition, I conducted field observations as a non-participating observer, including one site visit to the organization's headquarters, informal talks with the members of the team, attending organizational training sessions mediated by WebEx, and occasional observation of the research staff meetings using teleconferencing. More importantly, I was given access to the organization's intranet as well as the team's shared

workspace online—the eRoom—for about two months. Information on the intranet facilitated a better understanding of the culture of the company and at the same time, the eRoom-related information found in the organization’s knowledge database on the intranet provided both contextual and specific understandings about organizational strategies and related policies regarding technology use as well as the educational resources provided go guide the use of the newly introduced groupware. In addition, observations of how the research team used eRoom allowed the tracking of the members’ use of eRoom through getting instant notifications of changes, nightly reports, and recording the frequency of each member’s use on a weekly basis (as it has features that enable display of these statistics). Since the eRoom was also an archive of past projects, it also helped with understandings of team history and the nature of their tasks.

Another source of data for this team was the printed documents, including the company vision statement, employee handbooks, and the team newsletters that were distributed to all members of the organization. Lastly, access to some mass emails sent to all staff members of the organization and to the members of the research group only provided me with valuable opportunities to take a glance at how emails were used within the organization and the group. Topics of those mass mails included awards and competition announcements, announcements of technological training sessions, HelpDesk information, team new hires, birth announcements, and other documents.. Unfortunately, most of the emails within the research team were sent person-to-person and therefore were unavailable for this study.

Case B

I conducted this case study with an ad hoc project team in a major financial organization. Due to the high confidentiality of the project information, I was not able to gain access to the process of team interaction while the project was going on. Instead, in-depth interviews with the core team members a few months after the completion of the project were the primary data used in this study. The core members I interviewed represented different subgroups within the team, including data analysts, business analysts (including the team leader, who was the owner of the project), project managers (who coordinated team interaction), and operational experts (who mediated interactions between outside vendors and internal experts). In addition, I maintained ongoing conversation with one member of the team, who was my contact for that group. All interviews were conducted face-to-face and each interview lasted from an hour to two hours. The interviews were semi-structured, with most of the questions being open-ended ones. In addition, interview questions were adjusted throughout the interview as understandings of the team interaction process accumulated over time. Questions were also adapted to the members' roles in the organization and their roles in the team.

Case C & D

The groups to be discussed in Cases C and D were from the same academic organization. As indicated earlier, I was given close to full access to the two groups for

six months or longer. In collecting multiple qualitative data for those two studies, I started with field observations, namely, observations of email interactions and team meetings via conference call. Most of the email interactions within the two groups were copied to me, including messages sent or replied to all team members, email exchanges among the subcommittees that worked on individual projects, and the members' email interactions with external members in the organization. I did not have access to all person-to-person messages. With regard to meetings via conference call, I sat in most of the meetings in both groups, although the frequency of the calls differed in each case. In particular, I sat in the monthly conference calls of the group discussed in Case C from January 2005, when I began the observation of the group, till June 2005. The frequency of the conference calls in the other group (discussed in Case D) varied before and after its membership change. Before the membership change, although I started my study of the group since September 2004, the group did not have a conference call until January 2005. The group had more regular calls after its membership change in January 2005 (every six weeks or so). As a result, I sat in most of the calls from January to May 2005. In both cases, all meeting agendas and minutes were made available to me through email attachments.

In addition to field observations conducted in the electronic context, I was also able to participate in the face-to-face meetings of both groups, which met face-to-face twice annually. More importantly, both face-to-face and phone interviews were an important source of information. I conducted forty-five to fifty minute interviews with all

members of the two groups once. Leaders of both groups were interviewed periodically (two to three times during the study) as key informants. In Case D, due to membership change occurred during the study, I had the advantage of interviewing both the exiting members (who provided important information about the group history) and the new members. I also informally interviewed the previous leader of the group discussed in Case C to gather information on group history. In addition, I interviewed two members of the staff team at the organization, who worked very closely with each of the two groups, respectively, in order to understand how external linkages affected internal group processes. Lastly, written documents such as procedures manuals, project lists, and other working documents from both groups were also used as evidence to facilitate my understanding the communication process in the two groups.

Method of Data Analysis

Multiple sources of qualitative data were used in this study, including interview data, field notes, electronic data retrieved from online sources, and collected written documents. First, all of the face-to-face interviews were tape recorded and transcribed afterwards. I normally transcribed the data within several hours after the face-to-face interviews were conducted. In the case of phone interviews, I took extensive notes during the phone conversation and recorded the conversation based on the notes and my memory immediately afterwards. In conducting field observations such as face-to-face meetings, conference calls, and computer-mediated corporate trainings, I took extensive

notes throughout the observation and accumulated valuable fieldnotes. In addition, another important source of information came from the electronic and written documents I collected, including email exchanges, agendas and minutes for conference calls, company brochures, downloaded information from the intranet, and team working documents such as procedure manuals, project lists, various forms, etc. Additionally, I used memos as “sense-making tools” (p. 72, Miles & Huberman, 1994). Both initial and integrative memos facilitated my understandings of the qualitative data at a conceptual level and helped the task of tying different pieces into general patterns.

In terms of data analysis, as Yin (1994) suggested, analytic induction should be used to analyze case study results, which requires the analyst to use his/her intelligence, logic, and expertise to identify causal relationships and other connections among significant elements surrounding empirical data. In coding the qualitative data, I referred to the constant comparative method discussed by Lincoln and Guba (1985) and the techniques for developing grounded theory proposed by Strauss and Corbin (1990, 1998), although given my adoption of the theoretical frameworks prior to data collection and analysis, my approach should be better viewed as a modified grounded theory approach (see detailed discussions below).

In analyzing data obtained for each case, I started with open coding and as my understanding of the data developed, I went into axial coding and selective coding. Guided by the constant comparative method, I moved back and forth among the data and between the data and the conceptual categories. In addition, in each case, I followed a

structural approach and analyzed the data initially by focusing on patterns and norms of media use, after which I examined boundary and identity related concerns and developed connections between interaction patterns, structuring moves, and boundary management. Theoretical implications were derived from observations of repetitive patterns as well as focused readings of particularly “rich” incidents or tactics of technology adaptation.

Open coding is the process through which “concepts are identified and their properties and dimensions are discovered” (p. 101, Strauss & Corbin, 1990). I initially developed conceptual understanding of the interview data and fieldnotes through line-by-line readings of the data. Specifically, I used the “comments” function in Microsoft Word systems to tentatively label the discussed phenomenon with conceptual categories. For instance, when one member made the comment, “...the playing field changed rapidly,” I used the code “changing external environment” to describe his comments. I also compared his comments with similar comments made by other team members with regard to the changes in federal laws that affected the group project. As a result, the originally developed codes and concepts were constantly defined, refined, and clarified through developing theoretical properties of each category as the line-by-line reading continued and the memos written gave me clearer understandings of those concepts. In the open coding process, I started with general coding of all interview and observation data. Subsequently, guided by the theoretical perspectives adopted in the study, I conducted more focused coding of data that were more related to my research questions,

although it happened from time to time that data that were initially considered to be less relevant were found to be important after rereading the data and some tentative categories and linkages were identified.

After open coding all interview data and field notes, I turned to axial coding. Axial coding is the process of “relating categories to subcategories along the lines of their properties and dimensions” (Strauss & Corbin, 1990, 124). To continue with the previous example, after I assigned the code “changing external environment,” I found it to be related to several other codes, including “time constraints,” “complexity of the project,” “membership shifting,” and “broad goals,” which together indicated to a common category of “ambiguous scope of the project.” Noticeably, at the stage of axial coding, I started to examine the data using my interpretative lens. Although it was grounded in the data, my theoretical perspectives, personal experiences, and prior knowledge on virtual group processes biased and filtered what I observed and interpreted from the data. A method to counterbalance the possible subjectivity in the analytic process is to provide sufficient contextual information in writing so that the reader can make their own judgments (Lincoln & Guba, 1985).

The third step of analytic analysis, according to Strauss and Corbin (1998), is selective coding. Harry, Sturges, and Klingner (2005) called this step of analysis “thematic analysis” since it is through selective coding that qualitative researchers identify emerging themes and construct stories about (and simultaneously provide explanations for) what is going on within the research phenomenon. Consequently, after

identification of concepts and categories from the data, I started to examine core themes as some concepts and categories could merge into larger themes. As a result, larger themes and subthemes were identified based on the conceptual understanding of the data. For instance, my interview data in one of the cases suggested patterns of email use as well as patterns of conference call use. Several subthemes identified led to a larger theme of “differentiation of media,” namely, electronic mail and conference call were used in contrasting ways. It often took several passes through the data in order to identify themes and subthemes.

After gaining a deeper and conceptual understanding of the data and identifying core themes, the next step of analysis was to find linkages across themes and to understand the connections. Understanding of the general patterns as well as identification of connections between and among the identified themes started during open coding and expanded during axial and selective coding, and continued through the writing process. This step involved connecting data that may not initially appear to go together and sorting through them again and again. For example, in analyzing Case A, initially I did not find the leader’s comment on “profit orientation” to be very relevant to the process of team interaction. Nevertheless, later analysis made me realize the significant impact it had both on perception of group identity and on how the members appropriated multiple media. In particular, I was able to connect it to the seemingly unstructured pattern of team interaction, since the fact that regular phone meetings and conference calls were frequently interrupted by business needs or busy work schedules

revealed a group norm of “business needs come first.” Clearly, the leader’s belief in “profit orientation” shaped patterns of team interaction and affected norms emerged within the team in appropriating multiple media to the group context.

In addition, as indicated previously, integration of the data not only involved synthesizing overall patterns and identifying connections, it also involved intensive reading of particularly “rich” incidents and communication strategies. Deeper analysis of the rich information allowed me to infer layered meanings embedded in it. For example, in Cases C and D, I described an episode of relational exchange between the two groups (which were from the same organization). Although a first look indicated nothing more than social exchange and having fun, a closer reading of it within the context suggested how this simple episode served multiple functions related to identity and boundary management. Specifically, it was an opportunity for the members of both committees to simultaneously reinforce and blur group boundaries. In addition, it allowed one of the groups to express its shifting group identity.

Although I have described the coding process as if each step occurred in a linear fashion, the actual coding process was far messier than that. In coding the data, I constantly found myself going back and forth between open coding and axial coding. In other words, any significant idea about patterns or connections necessitated another reading of relevant interview data and field notes. In addition, the initial coding also informed my later interviews and redirected my research questions. A convincing example would be the inclusion of the bona fide perspective in the middle of the study.

Initial coding suggested that the virtual groups seemed to reflect a general pattern of sense-making of their group identities and boundaries through various interaction behaviors. As a result, I decided to embrace the bona fide group perspective and took a different look at my data. In addition, I conducted more interviews focusing on group identity and boundary management.

As the inductive analysis of the data progressed, I collected more data to fit the existing categories/themes or to revise already-developed categories. In addition, following the constant comparative method, I continually compared certain parts/types of the data with other parts/types and to the literature to achieve triangulation. For example, in one of the cases, I learned during the interview that email interaction within that group tended to happen among subcommittees. Going back to my archive of the email messages exchanged among the members of that group helped me to verify that pattern. In another instance, “informality” was described as the culture within one of the groups. My field notes detailed the informal scene of their meetings, the decision-making procedures, the phrases used, and jokes occurred from time to time, which made me more comfortable in claiming “informality” as the group culture. In addition, as categories, themes, and linkages were identified, I constantly compared them to the interview and the observation data to ensure the coding process was grounded in the data.

The validity of the study was ensured not only through data triangulation discussed above, but also through “member checks” (Lincoln & Guba, 1985). In conducting all four case studies, I either had the advantage of maintaining ongoing

conversations with one member of the groups (who were normally my contacts for those groups) or talking to key members periodically. As a result, I discussed the emerging ideas and themes with those contacts and key informants to test my interpretations against the participants' perspectives. Subsequently, this testing either gave me more confidence in truthful interpretation of the research phenomenon, or in some cases, allowed me to revise or reject some initial findings. In addition, the "truthfulness" (Lincoln and Guba, 1985) will be further guaranteed after sharing the results (which is always an ongoing process) with some of the members, who have already expressed interest to read them and provide feedbacks.

CHAPTER IV

CASE A

Introduction

In this case study, I examined how a research team in a public relations firm socially constructed its group boundaries in internal and external interactions and how a sense of “groupness” evolved within the group through developing group specific patterns of media use and through stressing interdependence in the process of team interaction. Specifically, externally, although the group boundaries of the group became blurred as a result of frequent contact with its internal clients, the account teams, the fact that they had different patterns of media use with the account teams and within the research team helped to manage the group identity in face of the blurring of group boundaries. Internally, unique patterns of group interaction as well as norms of media use gave voice to the group’s identity. Patterns of technology appropriation that characterized the group included a preference for phone in ambiguous situations, an increasing use of AOL instant messenger in interaction, and a group specific pattern of appropriating the newly introduced groupware called the eRoom. In addition, norms evolved within the group such as a profit orientation, an emphasis on relational interaction, and the value of informal information sharing gave the group its unique identity and bound the group together. Lastly, a sense of “groupness” developed with the group as a result of creating a sense of interdependence in routine interactions.

Description of the Organization and the Group Studied

The site of this case study was at Media One, a leading US consulting firm in public relations. As a multinational firm and a branch of a Fortune 100 company, Media One is headquartered in a major city on the East Coast and has offices around the globe, including several domestic locations and a number of overseas offices in Asia Pacific areas, North America, Latin America, and Europe. The agency provides innovative services that satisfy the public relations goals of its clients cross all industries. Media One as a whole is divided into different businesses and the organization organizes itself both by practices and by geography. Some businesses, for example, the San Francisco Office, organizes itself by geography since it mainly serves its clients in or near San Francisco area. Other businesses, such as the Global Research Team (the group studied), has staff members in different domestic locations, all of whom report to the team leader based in the organization's headquarter. Each business center is financially independent and has its own profit targets and goals to meet annually.

Multiple sources of the qualitative data indicated that Media One had a very strong and unified organizational culture (Martin, 2002). The members of the Global Research Team described the organizational culture primarily as “collaborative” and “informal.” In terms of collaboration, for instance, a member of the research team described the collaborative culture as follows:

Some agencies have a competitive internal culture. The strongest survives to the top at the cost of others. Media One has never been in that way in a number of years. Media One employees are your colleagues and you treat them with as much respect as you would treat your clients. Impolitely we say you're not

supposed to screw your fellow employees. They are your colleagues whom you treat with respect. We have always been respectful, collegial and collaborative. And really really really competitive people who enjoy screwing their coworkers don't tend to last very long. If they get hired, they tend not to stay, because it's not a competitive environment.

In addition, Media One has an informal culture that encourages informal information sharing and socialization. The dress code within the organization is informal Monday through Friday. There tends to be numerous informal gatherings within the organization, in which the employees are encouraged to take part, introduce themselves, and exchange information with other staff members.

In terms of organizational attitudes towards technology, Media One strongly encourages the use of communication technology at work and provides strong technical support services to all staff members, including a very responsive Help Desk and frequent technology training sessions. In order to ensure faster, easier, and smarter services to its clients, Media One launched a Digital Initiative in the year 2000 and introduced Web-based communication tools including the Intranet and the Extranet and a group support system called the "eRoom" into the work process. These Web-based communication tools were introduced not only for the purpose of real time and seamless internal interactions across geographical boundaries, but also to enable the internal groups to be electronically connected with their external clients and partners. For example, a digital knowledge library on the intranet stores a large number of searchable files composed of case studies, reports, and strategic plans of individual groups in the organization. In addition, a searchable engine on the intranet allows the staff members to

identify other organizational members who possessed specific knowledge, expertise, and experiences. Moreover, the intranet and the extranet portal provided a desktop that is shared by Media One, its clients, and its partners worldwide.

Another collaborative tool introduced is called the eRoom. The eRoom is a central computer drive workspace available via the Internet for clients and the staff members within the organization. The eRoom can house information like flier or poster text, cost and activity reports and the latest versions of completed materials. More than a housing tool, the eRoom has additional features that facilitates interactions across time and geographical distance, such as a Database feature providing an easy-to-use, template environment that allows multiple people to edit the same report simultaneously, a Discussion feature allowing exchange of ideas online in the form of threaded discussions, and a Calendar feature that allows its users to organize group meetings. Because the eRooms exist on the Internet, users can plug in from anywhere in the world and be able to access all the files that the team needs in the shared workspace. This also permits users to invite others from the organization, as well as vendors and strategic partners into their eRooms. The portal is a secure, password protected, Web site that the team can enter from any computer with Internet access.

The Global Research Team at Media One was selected for the purpose of this study because it had multiple locations across the country, it used a variety of media for team interaction including the team eRoom, its tasks were of strategic importance to the organization, and it had multiple linkages within and outside the organization. The major

responsibility of the research group was to conduct research, including researching client information, media coverage of clients, and understanding customer psychology through interviews and focus groups. The extent of collaboration among the collocated as well as dispersed team members normally depended on the size of the project, with smaller projects undertaken by a few members of the team and larger scale projects requiring more members.

By the time the study was conducted, the team had fifteen members, including eleven regular full time employees, an on-site vendor, a telecommuting freelancer, and two interns. The majority of the group (nine members) was collocated in the department's office in the agency's headquarters, and six other members worked from remote offices in various domestic locations. All members reported to the team leader, the Director of the Global Research Team. The team also had a Deputy Director who supervised several junior members of the team.

The Global Research Team had close ties with its clients from both inside and outside the organization. Most of the group's clients were internal, namely, the account teams in the organization that provided services to individual clients, such as Home Depot, Kodak, Best Buy, etc. The researched team viewed the relationship with the account teams as very important for the survival and the effectiveness of the group since the account teams provide business opportunities for the research team, although all groups were financially independent. In addition, the research team also served external clients directly. For example, working together with other groups in the agency three

years before the study, the research team successfully completed a communication campaign for a state government, the purpose of which was to make the 650,000 public employees of the state more aware of a retirement plan available to them.

Case Analysis

This section is organized as follows. First, I explain how the Global Research Team discussed in this case study manifested features of a bona fide group. Then I explain how the group socially constructed group boundaries in internal and external interactions. In the remaining part, I explain how a sense of “groupness” developed within the group through patterns of routine interactions.

The Global Research Team as a Bona Fide Group

At the outset, the Global Research Team manifested features of a bona fide group in terms of the permeability of group boundaries and in terms of interdependence with its immediate contexts. The group boundaries were permeable because of constant turnovers within the group and some of the members’ multiple memberships. In addition, the group was interdependent with its context because of intergroup communication and the influence of industrial and organizational cultural contexts on the internal group processes. I explain each of these two aspects respectively in the following.

Permeability. The boundaries of the Global Research Team became permeable

due to the high turnover rates within the organization and the presence of boundary spanners on the team who possessed multiple memberships or identities.

First, as the team leader indicated, like most Public Relations firms, Media One had high turnover rates. The average turnover rate within the Global Research Team was in average 10-20% per year and it had been even higher in the past three years. As a matter of fact, one member left the group right before the start of this study and two new members joined the group during the study. As a result, shifting membership became a normal part of the group process within the Global Research Team. Evidently, group boundaries constantly shifted as some members leaving and new members joining the group. In addition, they became permeable as the new members brought in new norms and practices into the group processes, which redefined group boundaries and caused a shift in group identity (to be discussed below). Consequently, the team managed its fluctuating boundaries and maintained a sense of continuity through the use of the team eRoom as an archive to store all past projects electronically, including those completed by members who already left the organization. As a result, knowledge remained in the organization regardless of frequent turnovers of the team members. More importantly, group history was recorded and kept electronically, which contributed to the members' sense of a group identity.

The group boundaries were also made permeable through the existence of multiple memberships and as a result, the combination moves they made in appropriating communication technology in the work process. Some of the members within the Global

Research Team possessed multiple identities or multiple memberships, who functioned as boundary spanners as they transferred interaction practices and norms from their other work contexts into the research team. In structural terms, those were combination moves as the users appropriated a norm from outside the group and brought it into the structuring process inside the group. For example, there was a freelancer on the team, who worked from home and was relatively independent. She joined the research team after her former organization was acquired by Media One. Possessing multiple identities, she seemed to identify more with her former employer than with Media One. In effect, this individual boundary spanner transferred interaction norms from her previous work context to the research team and as a result, she was frustrated by the slow response to email messages from other members of Global Research Team. In comparing the two work contexts, for example, she commented, “There are a lot of similarities...but I found Media One employees are not as responsive. People emailed you for problems and you should respond immediately. There is no sense of urgency in Media One.” Thus, through her perception of media and her communication behaviors, she influenced how soon the group replied to email messages. Consequently, the norm of being responsive was emphasized more within the group and became a common norm. Clearly, the boundaries of the Global Research Team were blurred as boundary spanners transferred norms from other contexts into the group context.

Another example indicated how, as a newcomer and at the same time a boundary spanner, an individual member’s communication behaviors impacted the general patterns

of media use within the group. The newcomer joined the group at the beginning of this study, who worked under a vendor whose services the research team used. She represented the vendor and provided onsite services to the research staff. At the same time, she was also viewed as a member of the group since she collaborated with other team members on a daily basis. During my interview with her, she indicated that her presence onsite influenced patterns of eRoom use within the research team. Before she went onsite, she used to interact with the members of the research team through a shared database in the team eRoom, where all members input their requests and she responded to those requests in the eRoom. After she joined the research team onsite, however, the frequency of the use of database in the team eRoom was significantly reduced within the group. In addition, she found using instant messenger (IM) allowed her to conveniently and efficiently interact with both other members of the research team and her colleagues from the vendor's side. As a result, her use of IM reinforced the increasing use of IM within the research group.

Interdependence with its immediate contexts. Putnam and Stohl (1996) claimed that bona fide groups are interdependent with their immediate contexts. According to the authors, among other factors, intergroup communication led to a group's interdependence with its immediate environment. In addition, cultural context was mentioned as one of the multiple contexts that influence a group's internal process through providing norms and values. In the ensuing part, I will discuss how the Global Research Team became interdependent with its immediate contexts through both

intergroup communication and borrowing values and norms from its immediate contexts.

In terms of intergroup communication, the boundaries of the Global Research Team became permeable as a result of the close working relationships and frequent interactions with external groups and members, including its internal and external clients and other organizational members. First, the client's perceptions of the group impacted its self conception of a group identity. Interviews with both the team leader and the members indicated that the members viewed the group as being strategically important to the organization and as being very effective in task completion. These conceptions came from and were reinforced in external interactions. For example, with regard to its strategic significance, the leader indicated that the group perceived itself to be strategically important because the organization's clients ranked research as the second or third most important factor in differentiating PR firms. The group also perceived itself to be very effective in task performance due to the positive feedbacks from its internal and external clients. Therefore, the group made sense of its collective identity through others' perceptions and how consistent they were with its self conception.

Secondly, as indicated previously, the Global Research Team had very close working relationships with the account teams in the organization. In relating to members of the account teams, the internal group processes within the research team could be impacted or redirected. For instance, in evaluating the use of the team eRoom (a group collaboration tool), the members frequently mentioned that in comparison to how it was used in the account teams, the Global Research Team did not use it to its fullest

potential. In addition, the members of the research team were encouraged to use face-to-face or phone in interacting externally with the account teams, since immediacy was conducive to relationship development, which in turn, created more business opportunities. Thus, preference for “richer media” became a habit not only in external interactions, but also in interactions with members inside the group.

Thirdly, in using the eRoom to collaborate with its partners and clients both from inside and outside the organization, boundaries of the Global Team became blurred. As in many other groups in the organization, the members of the Global Research Team used its team eRoom as a way of being digitally connected with their partners and clients, since as a collaborative tool, the eRoom allowed all parties involved to jointly edit documents and to share their work processes. For example, when working for the state government project mentioned previously, the research team opened an eRoom for the client, which was used extensively during the early and middle stage of the project. According to a member who was deeply involved in that project, the use of a shared online space in the eRoom allowed seamless collaboration between the members of the research team and their client:

People upload drafts and final versions of documents. We used the eRoom to house information, save drafts and clips, and post brochures in PDF format. We even used the voting tool when we do things creative. For example, when we design graphics for our campaign, our client can click the button and vote among, for instance, nine graphics and we will discuss the ones they like. It’s a quick and easy way to get information.

Evidently, the eRoom allowed direct interaction among the members of the research team and their clients in both brainstorming and decision-making. The very interactive

nature of the technology and the accessibility it provided to other related groups made the boundary between ingroup and outgroup blurred.

Fourthly, the boundaries Global Research Team were also blurred because of regular interactions with other members in the organization for the purpose of information sharing. As part of the collaborative culture, the organization provides various means for the members to share information and collaborate, such as the availability of a digital knowledge database mentioned earlier, frequent informal gatherings that facilitated exchange of information, and a “best team” approach in which regardless of the members’ work units, those with the best knowledge on a given project were put together to guarantee high quality services to the clients. One member, for example, explained the benefits of the introduction of the intranet and a searchable knowledge library into the organization as follows:

The whole idea of sharing knowledge was right when the intranet was born. If people are working on a piece of business, they need to learn from someone else. You need to know the people that work here, what their scopes are, and what they’ve done. We used to send out email to the whole worldwide network, saying “I’m working on this project, has anybody even done this?” Now you just go to either the people profile pages or the client profile pages or the skills pages, types in what you’re looking for, and people who’ve done it will pop up and you call them directly. That’s where information sharing improved dramatically.

In addition, during an informal conversation with the same member, he commented that the fact of moving to the same floor with other PR consultants facilitated more frequent exchange of project ideas. For example, a Fedex mail from Kodak in the hallway indicated that someone else on this floor worked with this particular client and could be used as a source of information later. Clearly, the collaborative culture of the

organization as well as the mechanism it provided enabled convenient intergroup interactions, which provided the members of the research team with ideas and opportunities and thus, influenced the group's internal processes.

In terms of interdependency with its immediate contexts, the Global Research Team relied on both the context of Public Relations industry and its organizational cultural context as sources of norms and values. First, the group members seemed to identify as much with the PR industry as with Media One. Industry work ethics were frequently cited as codes of conduct in the team interaction process. For instance, the team shared the general expectation that the members should be responsive in interacting with each other. Interestingly, the norms of being responsive had never been explicitly discussed within the team and several members understood it as a shared industrial norm. For example, one member compared Media One with another PR firm she worked with previously by commenting, "There are a lot of similarities. Working in the PR industry, people share work ethics such as getting back to people quickly." Another member expressed similar values:

If you're at home, you check your emails from home all the time. I mean, we are in the service industry. You got to be available, you got to check your emails and if people want to be in touch with you, you got it in a timely manner. That's what PR is."

Internally, the group culture in the Global Research Team was embedded in the larger organizational context at Media One. The organizational cultural values of "collaboration" and "informality" influenced the interaction styles and the group culture developed within the Global Research Team. For example, the members described the

team as a small and cohesive group, with trusting and supportive relationships. Evidently, this cohesiveness was developed through relational exchanges among the members on the team (to be discussed below). In addition, the members reported the unstructured nature of the group interaction process, with few explicit rules or norms guiding the team interaction process as well as the expectation for “unpredictability” in interaction.

In summary, the Global Research Team exhibited both defining features of a bona fide group, namely, stable yet permeable boundaries and interdependence with its immediate contexts. The boundaries were made permeable through frequent turnover and the presence of boundary spanners on the team. The group was embedded in its immediate environment in that intergroup communication influenced internal group processes and that the group transferred organizational cultural norms and values and the PR industrial norms into its group context. Both defining features of bona fide groups challenged the traditional notion of groups as containers and having fixed boundaries. In addition, the permeability of group boundaries not only indicated the influence of external forces on the internal group dynamics, but also suggested the need for the group to socially construct and constantly structure and preserve its boundaries through recurring patterns of interaction, which gave the group its identity and separated the group from other groups.

Socially Constructing Boundaries in External Interaction

Every bona fide group faces the simultaneous and seemingly contradictory needs of reinforcing/preserving and blurring group boundaries in interacting with external members and groups. While the discussions of the permeability of the group boundaries in the previous section indicated how external forces influenced, reshaped, and redirected the Global Research Team, the discussions in this section focus on how the group socially constructed and constantly reinforced its group boundaries in interactions with external members.

As discussed previously, the members of the Global Research Team collaborated very closely with members of the account teams in the organization, since that was where the group drew in its businesses. Nevertheless, regardless of the group's close ties with their internal clients from the account teams, the Global Research Team maintained a strong sense of "groupness" and reinforced its group boundaries through stressing the distinction between in-group versus out-group interactions. Specifically, group boundaries were created and reinforced through differentiating use of media and the presence of different levels of trust in interacting with internal and external members.

First, the members reported differentiation of media choice in in-group versus out-group interactions. Specifically, the members reported the use of "richer media" (by which they meant using face-to-face meetings and less preferably, phone) in interacting with members of the account teams. A major theme emerged in this case study was the closeness of interpersonal relationships impacted media choice, since knowing their

perspectives and other contexts facilitated interpretation of others meaning. For example, the members indicated although there could be multiple tones and multiple interpretations transmitted by text-based messages in email interactions, knowing someone personally made the interpretation of email messages a much easier process and misunderstandings much less likely to occur. Consequently, since most members on the research team shared close interpersonal relationships, the members felt less constrained in media choice when interacting with the in-group members. On the other hand, richer media were necessitated in interaction with members on the account teams, since the research team members did not know the out-group members as well. The following comments made by one member of the research team suggested how different criteria used in media choice reinforced group boundaries:

Most of us [the members of the research team] have been working together for a while, we know the routine, we know the right questions to ask, we just know how each person communicates, so it's not that difficult. I found it difficult to interact with the account people. If it's a complicated research endeavor, I prefer to speak to them face-to-face. It's just easier to go by face and go by expressions to see what it was really they're looking for. If they look a little confused, you know to probe a little further and ask more questions. But when you're on the phone, it's sometimes difficult to know if they understand what you're saying and they can't tell if you understand what they're saying.

In addition, group boundaries of the research team were also created and constantly reinforced through showing different levels of trust to in-group versus out-group members. Previously I described the collaborative culture within the organization in general. In practice, however, the members reported more trust in collaborating with other members on the research team than in collaborating with members of the account

teams. The following excerpt from the interview data illustrated that difference:

I think we [the members of the research team] are very honest with each other. We can call and say, “Look, I’m really in a crunch, and I really need help with this.” We don’t take advantage of each other and we only do what is necessary. So there is the level of trust there. With other people in the organization, we fear like they’re going to do something to make their life easier. But there is no such fear within our group.

Evidently, although the group was geographically dispersed and relied on multiple media to interact with each other, trust was developed within the group, which facilitated group boundary drawing and boundary maintenance.

Developing Group Patterns and Norms of Interaction

In this case study, I found interaction patterns and norms that emerged and evolved in the process of team interaction facilitated boundary management and identity formation. In addition, within the Global Research Team, a sense of “groupness” was also created and maintained through an emphasis on behavioral interdependence (Sherif, 1967) among the team members (discussed in the next section).

Patterns of media use. Having a wide range of media available to team interaction, including periodic face-to-face meetings, phone, teleconferencing, electronic mail, instant messenger, and a team eRoom, the Global Research Team adapted multiple media to its group context and developed unique patterns of media combination. Routine interactions included annual face-to-face meetings, regular conference calls, and monthly newsletters distributed via email to all members in the group and to others in the organization, and weekly half an hour phone calls between the team leader located in the

headquarter and individual members in satellite offices. Spontaneous interactions relied extensively on face-to-face meetings, phone, email, and AOL Instant Messenger.

Patterns of media use that gave the group its unique “personality” included a preference for the phone in ambiguous situations, the increasing use of instant messenger among a subgroup, and a team specific pattern of eRoom use.

First, an important pattern of media use that the study identified was a preference for phone in communicating ambiguous and complex messages. The Global Research Team as a whole was highly aware of possible miscommunication in electronically mediated interactions and as a result, phone became the preferred medium in ambiguous situations. For example, the deputy director of the team explained:

I think it is easier for there to be miscommunication [via email] than when people are having a conversation in a room. There are different ways to interpret email messages and the tone of emails. So there are miscommunication and bad interpretation of information. Sometimes I send out things that people don't understand and sometimes people send me information that I don't understand. There is a lot room for asking questions. When people are talking face-to-face, they can talk and ask questions. Emails don't do that. The phone does. So I think miscommunication and lots of opportunities for asking questions are the two major drawbacks of email communication.

Consequently, the team purposefully chose phone calls for communication that needed explanation, had room for confusion, and required two-way interactions. The majority of the members interviewed suggested that pattern of phone use. Some examples are:

When I have a question that requires more explanation or if it's something that involves a personnel issue, I do think that it is better handled in person or on the phone.

I'm much more likely to call if I need explanation.

Email is used for one way communication. Phone is used for things that are more important and involve more discussions.

Secondly, in terms of patterns of media use, the Global Research Team was also characterized by the increasingly prevalent use of instant messenger among the team members. During the onsite observations in the team's office in the headquarters, I found it interesting that although the research team's offices were on the same floor and all members sat next to each other, face-to-face was not the preferred medium in many circumstances. It happened very often that the members whose offices were next to each other used AOL instant messenger for interactions with each other instead of walking down the hall to talk face-to-face. Due to social influence, more and more members of the research team used instant messenger for routine team interactions. About 70% of the team used instant messenger for quick questions and they used it with collocated members as well as members in other locations. The users of the Instant Messenger found it convenient, efficient, and less intrusive. Some enjoyed its benefits so much that they convinced their coworkers to use it. With more and more users of AOL within the group, it was becoming an "official" channel for team interaction.

Thirdly, since there were hundreds of team eRooms existing in Media One, how eRoom was appropriated within a given group became part of the group's identity. An interview with an eRoom expert suggested that eRoom had very flexible features and although in training the organizational members, the expert set up a template for each team, the groups tended to delete them and manipulate the technology for their own purposes and needs. Interestingly, the members of the Global Research Team used a

variety of metaphors to suggest their perception of the technology, including a “library”, a “repository”, a “common drive”, and a “garage,” all of which indicated that the eRoom was understood as a place for housing information instead of an interactive tool that facilitated decision-making. As Rice and Gattiker (2001) concurred, perceptions of media constrain patterns of media use. Consequently, the members of the Global Research Team used the team eRoom to store a variety of information, including the members’ vacation plans, a team project list, research findings, past and completed projects, and links to search engines.

In summary, interaction patterns such as using phone to communicate ambiguous and complex messages, using eRoom for storing team information, and using instant messaging instead of email in routine interaction with other team members characterized the Global Research Team at Media One and gave it its distinctive group identity. Through developing patterns of media use, the team became a group that shared expectations for media use. These patterns also indicated things that the group as a whole value in interaction, such as convenience, mutual understanding, and utility.

Norms of media use. Like patterns of media use, norms of media use also constitute virtual groups in that they serve the function of regulating the members’ behaviors and differentiation the in-group members from the out-group members. Group norms of media use evolved within the Global Research Team including a profit orientation, an emphasis on relational communication, and the reliance on informal

channels as well as formal channels for information sharing. Together these norms indicated the central values of the group and gave the group a collective identity.

One significant norm that emerged in team interaction was a profit orientation, which clearly indicated the group's shifting identity as a result of the current team leader joining the group three and a half years ago. According to the team leader, he understood that an important aspect of the groups' responsibility was to make profit, which wasn't stressed much before he took the lead, since most of the group's clients were internal. In effect, through stressing making profits, he brought a cultural shift to the group. He suggested that he tended to hire people who thought that way and as a result, the research team became very profitable. Consequently, "business needs come first" became a norm in structuring the team interaction process. As the team leader explained:

In our business, when the business is coming in, we got a lot of projects, projects after projects, we can be really busy for a while. When the business is there, you want to get it. And there may come a break and that's a good time to have an offsite (annual face-to-face meeting).

Consequently, although the team attempted to structure the interaction process with regular communications, the rhythm tended to be interrupted by business needs. For instance, interviews with the team members suggested that the expectations for the frequency of the team meetings varied from weekly, bi-weekly, to monthly. Similarly, some members in remote offices reported interruption of the weekly phone calls with the team leader due to busy task schedules.

Another norm that the members of the Global Research Team implicitly shared was the norm that relational communication should be an integral part of team

interaction in the electronic environment. The members valued relational exchanges since they facilitated task collaboration. Relational communication was present in using a variety of media to interact. For example, during the study period, a new member joined the group. The team leader formally introduced her to the entire team via email, in which the introduction of her hobbies extended half of the entire message. Additionally, several members in remote locations made sure that when they visited the group's office in the company's headquarters, they stopped by everyone's office to visit and had lunch with other team members. They also made periodic phone calls with the team members in other locations to chat about their lives. For example, one member located in one of the remote offices explained:

I also call people, just say "hi" and ask what was going on, how was their weekend, their dog, etc. It helps me to keep perspective and helps with work--you want to know their other responsibilities outside their work.

Similarly, socialization seemed to be an integral part of the group's staff meetings via conference calls. Both interviews and field observations indicated that the atmosphere of the staff meetings was very casual, including lots of chit-chat, jokes, and social interactions.

Lastly, the norm of valuing informal channels of information sharing was transferred from the organizational context into the group context and impacted the team interaction process. As a senior member of the team explained:

There are two ways how this [information sharing] works. You can always be abreast of what's going on in the team and you find time to do that. Or when you need to get something, a piece of information, it should be relatively easy and relatively quick. We are doing a pretty good job there. With the culture and the

values we have, we mutually respect each other. The understanding is that if you're smart enough to be hired by Media One, you know how to tap into the network and get what you want.

Consequently, the members of the research team used various informal channels to gather information, including informal face-to-face encounters, spontaneous phone calls with other members of the team, person-to-person email interactions, and instant messages. Those informal channels seemed to be as important sources of information for the members as the formal channels were, such as the regular staff meetings via conference calls and the team eRoom.

In short, norms such as a profit orientation, an emphasis on relation exchanges, and an expectation for informal information sharing and acquisition were implicitly shared by all members of the Global Research Team. These norms facilitated definition of group boundaries since they characterized their group context and helped to differentiate the research team from other groups that the members worked with previously or simultaneously. In addition, the emergence and the evolution of norms facilitated group identity formation, since through agreeing and following shared norms, the group constituted itself and identified its members. Finally, the group identity shifted as new members brought in new norms and practices.

The above section focused on how the group boundaries were socially constructed, maintained, and redefined through internal and external communication. Through interactions with external members, the Global Research Team constructed its group boundaries and preserved the boundaries through stressing in-group versus out-

group differences in communication. In addition, internally, the members of the research team developed patterns and norms of media use. These patterns and norms facilitated boundary definition and redefinition in that they defined what the group was and what it was not. They also contributed to identity formation and identity shift in that the discussions of norms and expectations constituted the group and facilitated identification of group members. In the remaining part of this section, I will elaborate how stressing interdependence in routine interactions facilitated identity formation.

Creating a Sense of Interdependence in Routine Interactions

An important source of group identification was the interdependence among the team members (Henry, Arrow, & Carini, 1999). Interdependence means both shared goals and process coordination, which gave the members a sense of “groupness”. In this study, I found the Global Research Team was able to create and maintain a sense of “groupness” not only through developing consistencies in interaction (Postmes et al., 2000), but also through ongoing interactions that emphasized shared goals and team-wide information sharing. Both types of interaction activities reinforced group boundaries and facilitated group identity formation and maintenance, since through creating and sustaining a sense of interdependence, the group came together.

At the outset, the leader of the Global Research Team purposefully facilitated the development of a group identity through repetitively communicating the members shared group goals. As he commented:

I try to make sure that everybody has a good sense of our goal and have a good sense of progress against those goals. And we talk about that and you see that all the time and you realize you're a part of the team because you know what the goals of the teams are. Even though we're not sitting together, we are part of the team.

He stressed those goals using multiple channels, including the annual face-to-face meetings, the periodic group meetings via conference calls, and the monthly news letters sent to all members on the team. For example, in the group's 2002 annual face-to-face meeting, the group started the meetings by discussing what the group had accomplished in the past year and what their goals were for the upcoming year. In effect, all members indicated that the annual face-to-face meetings were used for discussions of the strategies and the bigger picture and for developing a consensual view of the team's collective goals. In addition, the team leader also relied on the monthly newsletter to communicate to the members about how the group was doing financially and how the members were contributing to their shared goals. Evidently, the repetitive communication of collective goals as well as individuals' contribution towards those goals facilitated the process of identity formation.

Another type of communication activity that created a sense of interdependence among the team members was regular and constant information sharing within the group. As indicated earlier, the Global Research Team relied on period staff meetings via conference calls and the team eRoom as official channels for information sharing. The group met periodically via conference call, in which the group went around the table to have each member provide project updates. The members also shared information with

regard to their availability to help with others' projects or request for help from others. In addition, departmental issues such as policy and personnel changes were also discussed in those meetings. Clearly, those staff meetings brought everyone on the same page and reinforced the sense of "groupness."

In addition, as discussed earlier, the group also shared a variety of information in the team eRoom. The most popular documents included the vacation plans and the project list. Each member input their vacation plans in a file stored in the team eRoom so that the members could coordinate their schedules and know others' schedules as well. In addition, the project list stored information about all ongoing and pipeline projects as well as individuals responsible for each project. Through reviewing those projects, the members understood each others' ongoing activities as well as their possible availability for providing help to others. Additionally, the members also shared research findings and finished projects in the team eRoom. All of these team-wide information sharing activities enabled by the team eRoom allowed the team members to create and maintain a sense of "groupness" in that they indicated how the members were bound together and that the collaboration was the key to achieve their shared goals.

Discussion

In this case study, I examined how a bona fide virtual group socially constructed the group boundaries through internal and external interactions, how the boundaries were made permeable in interactions, and how a group identity evolved in the process of team

interaction. Consistent with the bona fide perspective, the study viewed group boundaries as being constantly structured through recurring patterns of interaction, which create, reinforce, redefine, and blur group boundaries simultaneously.

As a bona fide group, the boundaries of the group studied were stable yet permeable. The group was inextricably linked to its immediate contexts through intergroup communication and through transferring industrial norms and organizational cultural values into the group context. External linkages blurred group boundaries in several ways. First, the interactions with the account teams impacted patterns of multiple media use internally. Secondly, organizational knowledge sharing and collaboration blurred group boundaries and impacted internal processes. Thirdly, industrial norms such as being responsive as well as cultural values at Media One including “collaboration” and “informality” influenced the interaction dynamics within the research team studied. In terms of permeability, the group boundaries were also permeable in the sense of boundary fluctuation due to turnovers and having boundary spanners on the team, who transferred norms and practices from their other work contexts and impacted internal dynamics.

Bona fide groups faced the dialectical tension of blurring and preserving group boundaries simultaneously. In face of the blurring group boundaries, the group studied developed specific boundary-preserving measures to maintain a group identity. Specifically, the group developed different patterns of media use in interacting with the account teams that were outside the group and in interacting with the members from

within the group. The members used “richer” media and showed less trust in interactions with the account teams. Those contrasting patterns facilitated boundary construction and boundary management, since through applying different patterns of media use, the members defined the boundary between ingroup and outgroup.

Within the group studied, the members socially constructed the group boundaries through developing patterns and norms of media use internally. Discussion of norms and expectations within the group, such as a profit orientation, an emphasis on relational exchanges, and a value of informal information sharing, facilitated boundary drawing and identity formation. Through sharing those norms, the group came together and the members identified with the group. Patterns of media use, such as a preference for phone in ambiguous situations, the use of instant messenger instead of email for quick exchanges, and using eRoom as a housing tool also set boundaries for the group since those group specific patterns separated the Global Research Team from other virtual groups in the organization.

Lastly, a sense of “groupness” was created and constantly maintained through stressing interdependence in electronically mediated team interaction. For group building purposes, the leader of the group studied repetitively emphasized the collective goals of all team members through using multiple channels. In addition, the interdependence among the team members was also created and maintained through the expectation for constant information sharing within the group.

CHAPTER V

CASE B

Introduction

This case study focused on technology appropriation and boundary management in an ad hoc project team at a major financial organization in the nation. As a bona fide group, the project team studied had ambiguous goals and permeable boundaries. Hence, in order to manage the ambiguous goals, the group engaged in ongoing and collective sense-making activities, which facilitated group boundary construction. The group boundaries were intentionally blurred in interaction for control purpose. In the meantime, they were maintained through specific patterns of media use. Internally the group socially constructed its boundaries through developing group specific patterns and norms of media use. In addition, the group developed specific tactics in appropriating multiple media to the group context to manage the blurring and shifting group boundaries.

The Organization and the Group Studied

The site of this case study was KBC, a Fortune 500 company and a major financial service organization in the US. The company is headquartered in a major city on the east coast and has satellite offices across the country, with its major operations in two major cities on the East Coast that are a hundred miles apart from each other. Culturally KBC is a result driven company and the employees at KBC tend to be committed to goals. It also encourages its employees to take ownership at work. One

member interviewed explained the concept of “taking ownership” as follows:

When you see there is a gap, when you see a kind of a gap in an existing system, when you see that there is efficiency in a particular strategy, don't just wait till the head say, “by the way, this exists. We need to do something about it.” Go and make suggestions as to what we can do about it. So come with the research and be prepared to validate it.

More importantly, the company is going through cultural shifts, in which it is changing from an entrepreneur, risk-taking, and small organization to a more standardized, structured, and larger company. KBC started as small organization that successfully took advantage of a market niche. In its earlier years the entrepreneur culture within the organization encouraged its employees to come up with new ideas and run with them. Due to the rapid growth of the company and the expansion into areas of more intense competition, the organization's culture shifts. The impact of the cultural shift on communication is that decision-making becomes a more formalized process and requires solid justifications and detailed documentations.

KBC supports the use of communication technology at work. The office buildings of KBC are well equipped with advanced technologies such as video conferencing and high quality teleconferencing systems. The internal email server allows the use of electronic mail in very effective ways. In addition, in practice, within KBC, video conferencing is the norm, conference calls are used very effectively, and five-minute voicemails are not uncommon. Senior management uses voicemail to convey very complex messages.

The particular team studied was a cross functional team put together under

special circumstances and for a special task, that is, a Data Capturing Campaign project. In order to utilize the company's remaining budget in 2003 and turn it into profits, a SWAT team was created in a very short time frame in November 2003. The ad hoc project team had the general goal of collecting customer information from KBC's customer base through five external vendors, four of which were new to the company. The vendors were geographically dispersed across various domestic and international sites, including sites in Canada and India.

A SWAT team is a symbolic term used within KBC to refer to ad hoc project teams that are put together quickly through pulling people together and for strategically critical organizational tasks. The concept evolved within the organization a couple of years ago, when for a project that was completely critical for the company's moving forward, the organization had to pull together a group of experts from various business areas and asked people to drop their ongoing projects and join the SWAT team. Typically a SWAT team was characterized by a repetitive interaction pattern of quick convening and scattering.

As Figure 1 illustrates, the SWAT was composed of multiple interlocking subgroups with overlapping roles and responsibilities. Specifically, the team was composed of a subgroup of data analysts and business analysts who processed and analyzed the collected data, a subgroup of vendor relations experts that interacted directly with the vendors on the vendors' sites, an IT subgroup whose task was to ensure

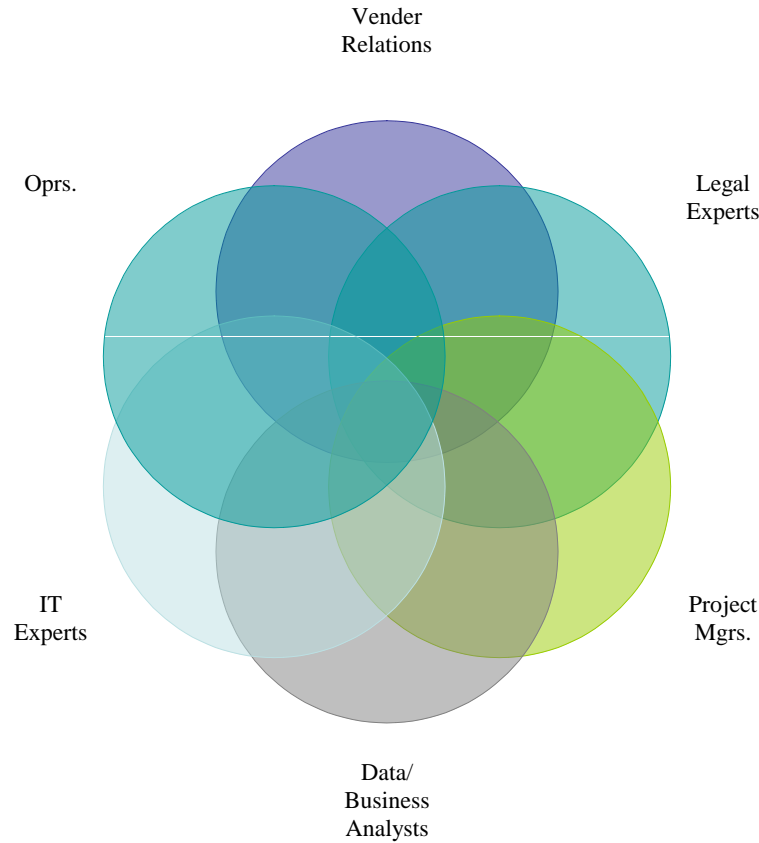


Figure 1 Multiple Subgroups within the SWAT Team

the collected data was stored in appropriate format and could be integrated into the organization's existing databases, a subgroup of legal experts who were responsible for the interpretation of the changing federal laws regarding using phone calls to collective sensitive customer information, a subgroup of operations experts that drafted scripts for the vendors to use in making phone calls to the customers, and two project managers who structured the interaction process and coordinated interactions among all subgroups. The project leader was a business analyst, who assumed overall responsibility to ensure

the success completion of the project.

The SWAT team faced several challenges. At the outset, there were time constraints. While normally this type of project would take several months to a year to complete, the SWAT team had only about two months from the project conception to project completion. In addition, the team had over twenty core members, some of which were geographically dispersed, either due to working in different locations or because of traveling. Since the project happened during the holiday season, some members left in the middle of the project and other backup members joined the group. Moreover, the legal environment was changing and uncertain during the project period. The SWAT team relied on subgroup face-to-face meetings, group conference calls, electronic mail, voicemail, and phone to coordinate its work and to interact with team members as well as other groups or individuals who were somehow involved in the project.

Case Analysis

In this section, I discuss in detail how the SWAT team constructed and managed the group boundaries and maintained a group identity through patterns of technology appropriation. Specifically, the study indicated that the group constructed its boundaries through constantly using the daily conference calls to make sense of its collective goals. In addition, unique patterns of media use and media combination as well as group norms of media use constituted the SWAT team and expressed its distinctive identity. In addition, the group developed specific tactics in external interaction to simultaneous

preserve and blur its boundaries. Lastly, internally the group also managed ambiguous and permeable boundaries through recurring patterns of media use.

The SWAT Team as a Bona Fide Group

The group studied clearly demonstrated the defining features of a bona fide group, namely, stable yet permeable boundaries and interdependence with its immediate contexts (Putnam & Stohl, 1990). The boundaries of the group were blurring due to task ambiguity and uncertain external environment. There were also blurring subgroup boundaries and fluctuating group boundaries within the SWAT team. In addition, the SWAT team was interdependent with its immediate contexts in that the internal processes of the group were constrained by the external environment and the changes in organizational context, it was embedded in the intergroup systems, and on the other hand, its activities fed back into the cultural environment of the organization and meanwhile, caused customer feedbacks and the involvement of other related groups in the organization. Each of these aspects will be discussed in detail in the following.

Task ambiguity and interdependence with its immediate contexts. A bona fide group makes sense of its group boundaries partly through identifying collective goals, since a set of collective goals sets boundary for a given group and separates it out from the environment. Group boundaries become blurring when a group has vaguely defined and constantly changing goals. That happened within the SWAT team. The goal of the Data Capturing Campaign was very broad and ambiguous. As the team members interviewed suggested, the team was expected to reach as far and wide as possible, to

collaborate with as many vendors as they could find, and to collect as much information as possible from its customer database.

The scope of the project was further complicated by the time constraints that the team faced, as well as the uncertain external environment. As one project manager suggested, while their task was not unusual, the time limit (two months for a project that normally takes “many more months”) and the extent of collaboration it involved made it a very complex project. Therefore, it was a situation that most of the members had never faced before. In addition, the SWAT team was also embedded in very uncertain legal environment. At the same time that the project was being undertaken, the government was changing the “Do Not Call” law, which, although did not prohibit companies from collecting sensitive customer information, redefined the classification of telemarketing calls as well as the procedures for making those calls. The changes of law was directly relevant to the project of the SWAT team, as the project was about using external vendors to acquire customer information through making phone calls to the customers. Changes in the details of the law affected the classification of the types of phone calls that the SWAT team asked its vendors to make as well as the appropriate procedures of those calls. The following comments from a project manager on the SWAT team suggested how internal activities were redirected by external constraints:

Right in the middle of our preparing, legislation was passed that says companies can collect sensitive information, however, there are caveats as to how you can get it and that you have to tell the customer what you are going to use it for. That also impacted the channel. So within days of starting the project, we had to step back, and rework some of our plans and change some of our scripts because the legislation had been passed. We knew that it was being considered, but we had to

convince our legal team that we were collecting data on existing customers and it was not a telemarketing call. But by that time, when the legislation was signed, what we were doing was classified as telemarketing. So we had to back up, take the telemarketing law and make our project fit the law.

Hence, the constant reinterpretation of the legal regulations made the scope of the project even more uncertain. As a result, the SWAT team faced the challenge of constantly making sense of its goals and constructing group boundaries in interaction.

Not only the external legal environment constrained the internal group processes within the team, the recursive relationship between the SWAT team and its context were reflected in two other aspects. First, its internal processes influenced and were influenced by the changing organizational cultural context. In addition, it was embedded in an intergroup system, which meant its internal activities were constrained by and at the same time, impacted the activities of other interlocking groups at KBC.

First, the changes in organizational cultural values and norms clearly impacted patterns of email use within the SWAT team, as the members transferred norms from the cultural context into the group processes. Specifically, the SWAT stressed documentation of both the interaction process and the results. As a result, the members frequently used emails for documentation purpose. For instance, a project manager interviewed explained how email was used within the SWAT team as follows:

Any issues that came up, any progress that came up. So it was technical information that needed to be documented. So issues that everyone needed to have a record of, it went by email. Any results that came out went by email. So people can be kept up with results. Any deliverables. So anything that needed to be documented, for whatever reason, was put into email.

Clearly, patterns of email use within the group reflected the impact of the larger organizational context, which in turn, reinforced the new cultural values and possibly, expedited the change process.

Not only was the SWAT team embedded in the organizational cultural context, it was also embedded in a system of interlocking groups. First, there were two related initiatives going on within KBC during the project period, one being the Data Capturing Campaign, and the other being a Data Integration Project in which the IT experts integrated the collected data into the company's existing database. The two projects were so closely related that the Data Integration Project could be considered the second phase of the Data Capturing Campaign. As a result, although the IT group was not considered to be at the core of the SWAT team, the team needed to interact with them from time to time to ensure the collected data were stored in consistent and appropriate format. The feedback from the IT experts could impact the internal activities of the SWAT team in substantial ways.

In addition, the members of the group not only collaborated with multiple groups internally, but also collaborated with multiple vendors externally. The external interaction with the vendors influenced the rhythm of internal interaction and more importantly, the feedback from vendors after using the scripts in making customer phone calls also redirected the group. The boundaries of the SWAT team were permeable also in the sense that their internal activities led to customer responses, which were fed back into the organization and caused the involvement of other related groups in the

organization. Consequently, the group had to interact with other groups or individuals in the organization who were not originally included in the team or the communication loop, such as the customer service team, the public relations team, and the escalation team. These groups had to be informed of the daily activities within the SWAT team because in response to customer inquiries and complaints, they needed to explain to the customers about the phone calls from the vendors representing KBC.

Blurring subgroup boundaries and shifting membership. As mentioned earlier, the SWAT team was composed of multiple interlocking subgroups. The division of roles and responsibilities was both clear and blurred. It was clear because each subgroup possessed expertise in a specific area and, therefore, was responsible for decision making and task completion in that area. For example, data analysts were responsible for segmenting data, passing the data back and forth with the external vendors, and analyzing the portfolio on the data platform. In addition, the operations groups drafted scripts for the vendor relation experts to use in training the external vendors. Nevertheless, like many cross-functional teams, the members shared overlapping roles and the division of roles and responsibilities was not always as clear cut as the above descriptions indicated. The boundaries between or among the subgroups were blurring, since there were tasks that did not fall naturally into a particular subgroup's range of responsibilities. For example, during the project period, it happened several times that the members suddenly realized that no one on the team was taking care of a particular task. In effect, part of the project managers' job was to coordinate collaboration and

make sure every part of the project was taken care of. In addition, due to the fast pace of the project and the many uncertainties involved, members found themselves stepping out of their roles from time to time. For example, the project leader described how people collaborated in the project team as follows:

We have this goal, but none of us could achieve the goal working in solo. There was camaraderie within the team, you found DA (Data Analyst) doing the job of BA (Business Analyst) and BA doing the job of Project Manager. All sorts of things happened in this team. People would go out of the role to help each other out.

In addition to blurring subgroup boundaries, the membership of the SWAT team was far from being constant. Due to the fact that the project happened during the holiday season, some of the members took vacation and had to withdraw in the middle of the project. As a result, the group had five or six back-up members who joined the group at various stages during the project. In addition, the vendor relation groups stepped out of the project as they finished training of the external vendors. Evidently, as the members went in and out the group, the group boundaries shifted. Consequently, the group needed to manage the fluctuating group boundaries in its interaction process.

In summary, the SWAT team had fluctuating, permeable, and blurring group boundaries. The boundaries was blurring in part because of the ambiguous goals of their project and the uncertain external environment that affected the internal activities of the group. In addition, boundaries among the interacting subgroups within the SWAT team were unclear and overlapping. The boundaries of the group fluctuated as some members leaving in the middle of the project and the backup members joined the group at various

stages. More importantly, the SWAT team was interdependent with the changing organizational context as well as a system of interrelated groups, both of which made the boundaries of the group permeable. Consequently, the SWAT team faced the challenge of managing the group boundaries in internal and external interactions. In the following sections, I focus on discussing how the group constructed, maintained, and blurred group boundaries in internal and external interactions. I also explain how the group managed the overlapping and blurring subgroup boundaries in interaction.

Preserving and Blurring Boundaries in External Interaction

As discussed Chapter IV, all bona fide groups faced the tension related to the simultaneous needs of having blurring group boundaries and preserving a group identity at the same time. Part of the goal of this research project was to examine how bona fide groups reacted to that dialectical tension. Within the SWAT team, the group developed specific tactics in interaction to preserve its group boundaries, although some tactics blurred and maintained group boundaries simultaneously. In addition, there were also situations in which the boundaries were purposefully blurred so that external influence could impact internal group processes.

Preserving group boundaries. First, the group preserved its boundaries through how it related to other members who also wanted to be kept in the communication loop. Initially, the SWAT team was not aware of the impact that their internal activities had on other related groups in the company. Nevertheless, the phone calls they made for the

purpose of collecting sensitive customer information soon caused feedbacks and complaints from the affected customers and led to the involvement of other interlocking groups in the organization, including the public relations group, the customer service group, and the escalation group. The senior management of the public relations group explicitly requested to be informed of the SWAT team's ongoing activities. In response to that request, one project manager of the team left voicemails to the senior management of the public relations group, providing them with daily updates regarding the group's internal activities. Interestingly, that change in interaction pattern blurred and more importantly, preserved the boundaries of the SWAT team. Although the boundaries were blurred as a result of keeping the members of the interlocking groups in the loop of communication, they were preserved at the same time, since in effect, those daily voicemail updates served the purpose of reassuring other groups of the legitimacy of the group's activities and thus, prevented the other organizational members from further intervention into the groups internal activities.

In addition, the SWAT team also preserved its group boundaries by excluding the external vendors from direct participation in the process of team interaction. Instead of including the external vendors in the email list or inviting them to the conference calls, the SWAT team used the vendor relations group as boundary spanners, who interacted directly with the vendors on the vendors' sites and provided daily updates on the vendors' feedbacks in the daily group meetings via conference call. Thus, the use of boundary spanners excluded the external vendors in routine team interaction and allowed

the team to maintain its boundaries.

Blurring group boundaries. While the above discussions suggested measures that the group took to maintain its boundaries, the study also identified communication patterns that blurred the group boundaries. For example, as indicated earlier, the patterns of email use within the SWAT team was influenced by the changes in organizational cultural norms. In addition, as the following discussion suggested, the boundaries of the SWAT team were purposefully blurred when boundary-crossing email messages were sent to the senior management of the organization and the meeting minutes was used as a form of organizational control.

The SWAT team developed a habit of copying their daily minutes to the senior management of the organization. The SWAT team typically distributed meeting minutes of their conference calls within half an hour after the meetings. Those messages that transcended organizational boundaries not only served the purpose of informing the management of the groups' ongoing activities, but also served the function of keeping individual members responsible for commitments that they made during the conference calls. As the project manager who was responsible for recording those minutes indicated, emails were used as a way of holding individuals accountable for certain parts of the project, since the emails clearly recorded allocation of responsibilities and promised delivering times. The project manager explained, "I also made it clear up front, when I did the meeting recaps, it addressed the daily deliverables. Senior management was copied on these daily minutes." Thus, through sending those boundary crossing

messages, the S.W.A. T team intentionally blurred the group boundaries. More importantly, that pattern of media use allowed the meeting minutes to become a form of unobtrusive organizational control.

In short, the above discussions indicated how group boundaries within the SWAT team were reinforced and blurred simultaneously through developing patterns of media use. The boundaries were reinforced when external influences were minimized and they were made permeable when other external forces penetrated into the group process and influenced the interaction dynamics within the group. Both boundary maintenance and boundary penetration occurred within the SWAT team suggested that the group had simultaneous needs of blurring and maintaining group boundaries in relating to the interlocking groups in the organization. In some cases, the group made conscious choice of patterns of media use to allow external interventions, which were believed to be conducive to its task completion. In other cases, external interventions were minimized since they might hinder the accomplishment of group goals.

Socially Constructing Boundaries in Internal Interactions

While the above section focused on boundary management measures that the SWAT team took in external interactions, this section explored how the group constructed and maintained a group identity through recurring patterns of internal interactions. The following discussions focus on three aspects. First, creating and repetitively using a group email list facilitated boundary setting. Similarly, keeping

regular participants of group meetings via conference calls allowed the members to identify ingroup members. In addition, constant sense-making of the scope of the project that the group undertook facilitated group identity formation. Thirdly, the evolving patterns of team interaction and shared group norms of media use constituted the SWAT team as a virtual group and in turn, set boundaries for the group and contributed to the formation of a distinctive group identity.

First, an important way for the SWAT team to structure and reinforce its group boundaries was through deciding whom to include in the communication loop, since both email lists and participants invited to the conference calls set group boundaries. First, email lists set boundaries. They specify who is inside and outside the group and display it for people to see, reinforcing the group. Within the SWAT team, one project manager created a group email list and shared that with the entire group. Subsequently, people who were included in that email list became insiders to group information and those who were not became outsiders. That email list was even more important for boundary management purposes when the group developed the habit of “replying to all” in email interactions. The group boundaries were reinforced each time the members sent their messages to all on the group email list. Likewise, interviews with the team members suggested the members of the group had vague understandings of the group boundaries in terms of member composition and consequently, those who were invited to the daily meetings, which were an important mechanism to bind the group together, were considered to be the core members of the group.

Defining and redefining group boundaries through meeting daily via conference calls. Due to both internal and external ambiguity, the SWAT team had to constantly make sense of its goal and what it could accomplish within the two month project period.

One member interviewed described how the “playing field” changed constantly:

I think one of the reasons that this project was unique was that the goals were changing quickly. You would get more information, which, as a result, would change the direction you wanted to go. All of a sudden, a legal expert might say, “You can’t do this” and as a result of knowing that, we would change the direction we were going. We had many quick shifts. We might find out some IT system wasn’t available and we counted on the IT system being available. So as a result of knowing it wasn’t available, we had to come up with a different solution.

Consequently, the SWAT team constantly constructed its group boundaries partly through meeting daily via conference call. The daily meetings via conference calls included all core members of the group, including vendor relations who reported daily updates from the vendors’ site on the phone, the business group, the legal experts, and the project managers. The group met at 10 O’clock every morning during the project duration, with the collocated members gathering in a conference room and the dispersed members dialing in from various domestic and international locations. Daily conference calls was adapted to the group context for various purposes, including subgroup updates, brainstorming, resolving outstanding issues, coordination of immediate action. An important goal of those daily meetings, however, was to make sense of the scope and the goal of the project.

As explained earlier, the project goal of the SWAT was ill defined and in addition, the contextual constraints changed on a daily basis. As a result, the group

needed to make sense of what it could accomplish within its time limit and with consideration to the changing external constraints. Making sense of its project scope as well as the members' collective goals allowed the group to form a group identity and to set its boundaries vis-a-vis other groups. Consequently, the group used the daily meeting for sense-making purposes, since it allowed the various subgroups to touch base on understandings on the project scope, to understand the many constraints they had and how those constraints changed on a daily basis, and to figure out--for the time being-- what a realistic goal would be for the group. For example, updates from the vendor relations experts at the daily meetings indicated to the group how the scripts they sent to the vendors' sites were working and how the customers were responding. As a matter of fact, during the initial stage of the project, based on the feedback from the vendors, it happened that the scripts were revised half a dozen times a day. In addition, during those daily meetings, the legal experts updated the group on the changes in the legal environment, which often influenced the groups' understanding of its goal and redirected the group in that sense. Evidently, contextual constraints and external interactions frequently influenced the internal processes within the group, particularly in the members' understanding of the group's goals and therefore, its boundaries. Consequently, those daily meetings allowed the group to continuously make sense of the constantly changing work context and subsequently, to redefine the group boundaries.

The constantly ongoing sense-making activities also influenced the evolving protocols of the conference calls. Initially, the group agreed on a norm of strictly

following the agenda that a project manager prepared for the conference calls. That norm was soon revised and renegotiated within the group, since a few days into the project, the group realized that the project was so dynamic that new issues emerged and the situations changed on a daily basis, which made it virtually impossible to strictly follow agendas during the calls. Consequently, the members agreed to follow the agenda but at the same time, allow introduction and discussion of emerging issues and situations.

Developing patterns and norms of media use. A third way for the SWAT team to constitute itself and set boundaries was through developing group-specific patterns and norms of team interaction. Specifically, media preference, norms of conference calls, and the patterns of combining multiple media characterized the SWAT team and facilitated its group identity formation and boundary management.

First, within the SWAT team, there was a general preference for using email and that media preference became a defining feature of the team. At the beginning of the project, the project manager who facilitated the team interaction surveyed the group in terms of media preference and as a result, the team decided that in comparison to phone or voicemail, email was the preferred medium for this particular group. Most members indicated if they had five minutes in between meetings, they would run to check their email first before going to their voicemails. As the project manager suggested, depending on member composition, different teams he worked with had different media preferences. For example, he indicated that if this was a project between him and the business analysts only, he would have used both email and phone on equal basis. Email

was preferred within the SWAT team due to both personal preferences and practical reasons. First, with a couple of exceptions, most members on the team indicated their preference for email as opposed to phone or voicemail. For instance, the leader preferred email because in comparison to phone, email did not put people on the spot, allowed deliberation before responding, and did not have technological problems as often as cell phones did. In addition, with regard to practical concerns, for those team members who had to be at the vendors' sites, email was more accessible and convenient, since they carried laptops with them and they could sit in a training and check emails simultaneously. Thus, based on a general preference for email, the SWAT team set the norm of expecting the members to read and respond to email messages, which as a group norm, bound the group together.

In addition to media preferences, the SWAT team was also characterized by norms developed within the group in adapting conference calls to their group context. Specifically, the group followed the norm of task focus, interactivity, and effectiveness in handling their conference calls. These norms served the function of regulating the members' behaviors and therefore, binding the group together.

First, the members described the calls as very task-oriented. The members made little small talk during the calls, were very committed to the project goals, and minimized interpersonal conflict. The team had strict agenda for each call, and members came to the meetings with the expectation of focusing on tasks and solving problems. In effect, the members of the team were so committed to their tasks that they tended not to

be distracted by personal interest and minimized interpersonal conflict. As one member indicated:

I'm not saying people were mean. People got focused. It wasn't about personality. It wasn't about your way versus my way. It's about finding the best way to accomplish the task. One key factor contributing to the success of the project was that people really focused on the task and ego was left out of the door. It's just a proposal and if it can be made better, let's make it better. I would say, that was the attribute about just everyone on the team.

Another norm that emerged in the course of team interaction during the conference calls was the norm of interactivity. As the team leader commented, "Each team has its own norm. Decision-making can be very derivative in other teams. In our team, everybody had an equal voice." With few reporting structures in the team, the SWAT team had a relative flat structure and the leader of the group encouraged equal participation. The members were expected to contribute to discussions, raise issues and questions, and ask for clarifications when needed. As a result, the daily conference calls were described as very interactive. One member on the team explained the expectation for interactivity within the group as follows:

The expectation was everyone can bring up an issue, everyone can provide input, and option, any questions, even questions that may not be directly related to what they were an expert in, you know, they may have some other experiences.

A third norm that characterized the conference calls of the SWAT team was the norm of effectiveness, which was reflected in behavior patterns such as using agendas and minutes, avoiding doing presentations with charts and graphs, effective time management, and avoiding side conversations. For example, the project manager who facilitated the calls made it explicit that if there was a side conversation during the call,

he would either ask them to hold it for later or to bring it to the team level. In terms of the format of the discussions, the team purposefully avoided presentations using charts or graphs and used text-based information in presenting ideas so that people who had to dial in could follow the discussions with relative ease. In terms of proper time management mechanism, the group always kept an eye on the time to make sure that the calls progressed as planned. One member explained how strictly the group managed time as follows:

The nice thing about this team was that we literally went down the list. We didn't spend fifty minutes on one issue and five minutes on six other issues. We went down the agenda. When we went to number four [on the agenda], which included common issues, XXX (the facilitator) would say, "please have a time keeper." As a result, the same member described the effectiveness of the call as follows: Our conference calls were very effective, I thought. Anybody could sit in including senior managers, in our conference calls and after an hour, know exactly where our project was at any point of time.

In terms of media appropriation, another feature that gave the SWAT team its "personality" was patterns of combining email and conference calls. The team used both media in complementary to each other and for repetitive communication of the same messages. The emails seemed to make the meetings more effective in that they prepared for the meetings, provided follow up communications after the meetings, and they allowed the team to handle the most critical issues only during the conference calls and used emails as an alternative for less critical issues or subgroup issues. First, the facilitator emailed agendas before all conference calls in preparation for the calls so that the members could come into the meeting with specific issues in mind. In addition, if someone could not participate in a specific meeting, he /she was required to send his/her

update the night before to the facilitator, who would represent him/her on the next day's meeting. If there were issues that weren't resolved within the meeting time, the team would follow up with emails and let the groups know their decisions via email in an hour or two after the meetings. More importantly, the facilitator emailed meeting recaps within half an hour after the meetings as follow up communications to make sure that everyone was on the same page. On the other side, the daily meetings also provided a daily outlet for any ambiguities and uncertainties in email interaction. During the meetings, there were usually ten minutes left towards the end of the meetings for answering individual questions and some times people used that time to respond to email requests/questions. That way the daily meetings actually helped to manage uncertainties that arose in email interactions. As a result, the team experienced little uncertainty in email interactions.

To summarize, the SWAT team constituted itself through developing recurring patterns of internal interaction that differentiated ingroup members from outgroup members. Specifically, group boundaries were defined and reinforced as the group identified the ingroup members through including them on the group email list and inviting them to the group meetings via conference call. Group boundaries were also constructed partly through having daily conference calls and using those meetings for sense-making purposes. In addition, a group identity formed as the members developed group specific patterns and norms of media use, which, when putting together, separated the group from other groups in the organization.

Dealing with Role Ambiguity and Shifting Membership

I described the role ambiguity and shifting membership within the SWAT team in previous sections. Accordingly, the SWAT team developed patterns of media use which facilitated the management of the blurring subgroup boundaries as well as the fluctuating group boundaries. Specifically, role ambiguity was managed through task coordination using multiple media and a pattern of “replying to all” in email interaction. In addition, given the fluctuating group boundaries, the group used a common project folder to maintain a sense of continuity.

First, as suggested previously, the multiple subgroups within the SWAT team shared overlapping roles and oftentimes, the role division and boundary between or among the subgroups were not clear cut. Therefore, an important function of the daily meeting was to make sense of boundary between subgroups through negotiating task responsibilities. Tasks were coordinated and delegated and individual responsibilities were clearly specified through synchronous interaction during the conference calls. In addition, the group used repetitive communication to ensure that the hazy group boundaries did not negatively affect task performance. As mentioned earlier, the meeting processes as well as the results were clearly recorded in the minutes distributed within half an hour after the meetings, which put the individual members’ responsibilities and commitments into written words to avoid misunderstandings. Thus, coordination through both synchronous and asynchronous media facilitated managing boundaries between the

collaborating subgroups.

Another way for the group to manage the blurring subgroup boundaries was through “replying to all” in email interactions. Interviews with the members on the SWAT team suggested that the group developed the habit of replying to all in email interaction, which caused information overload. Given the many constituents involved in the project and the ambiguity in the division of roles and responsibilities within the team, the members sometimes had difficulty in deciding a particular message was relevant to which subgroup(s). As a result, most of the members replied to all in emailing each other to keep everyone in the loop. In addition, through sending most messages to all members on the group email list, the members of the group was also notified of the ongoing activities within the group and therefore, facilitated task coordination. As one member interviewed indicated, although some messages sent to him was not directly related to his job, it was reassuring to know that a particular task was taken care of by someone else.

The hazy boundaries in terms of role division were also reflected in how the members managed their overloaded email accounts. The members tended to organize the received emails in a hierarchy of relevance and kept all unread messages (most did not manage to read all) instead of deleting them, in case it was found out later that one of those unread ones was relevant but ignored. For example, one member indicated that he colored the received messages differently to distinguish their relevance. Specifically, messages sent directly to him were in red; messages sent to the group were in blue; and unread messages were saved in black. In addition, in sending email messages, the

members tended to flag urgent or high priority messages with escalation marks and when necessary, forced the messages recipient to reply through sending messages with reminders so that a pop up window would appear on the recipient's computer screen before the time when a reply was needed.

With regard to the fluctuating boundaries caused by the members joining and leaving the group, members reported that due to time constraints, the back-up members were not given enough time or resources to be "brought up to speed" quickly. Nevertheless, keeping all group activities and important documents in a common project folder allowed the team to maintain a sense of continuity and a sense of shared group identity. The project managers required all members to upload any crucial project-related documents to a common project folder, which as a result, clearly recorded all activities of the project team. This helped to maintain a sense of continuity as members joined and left the group. In addition, information stored in the project folder allowed the members who had to leave the project temporarily and those who joined the project after it started to quickly make sense of the project and understand the group history.

Evidently, through their active communication behaviors, the members on the SWAT team managed the fluctuating group boundaries as well as the blurring subgroup boundaries. These actions facilitated boundary management in that regardless of the unstable or unclear boundaries within the group, they allowed the group to ensure the continuity of work and effective coordination of action.

Discussion

In this case study, I focused on how multiple media, in particular, electronic mail and teleconferencing (conference call) were adapted to the context of the group for the purpose of boundary management and identity formation. As a bona fide group, the SWAT team exhibited features of blurring and fluctuating boundaries both within the group and in relating to other groups. In addition, embedded in a constant changing external environment, sense-making of a collective goal became an important aspect of its group life, through which the group searched for group boundaries that set it apart from the organizational environment. Lastly, a recursive relationship between the group studied and its context was reflected in its interdependence with the organizational cultural context and the intergroup system it was embedded in. Not only was the group's internal activities constrained by the contexts, it also fostered changes in the environment. Specifically, through the group's emphasis on documentation in email use, the changing organizational cultural norms were reinforced. In addition, the internal activities of the SWAT team caused external feedbacks, which were fed back into the group and caused the intervention of other interlocking groups.

The findings suggested how recurring patterns of both internal and external interactions facilitated boundary construction and boundary maintenance. In addition, the group also purposefully blurred group boundaries in external interaction to allow external force to impact internal group processes. With regard to internal boundary management and group identity formation, the study found the group constructed its

group boundaries and formed a group identity through several means. First, keeping certain members and excluding others in the group interaction loop facilitated group boundary construction. In addition, the repetitive internal interactions evoking the boundary differentiation reinforced the members' ingroup identity. Secondly, the group identity was constantly defined through daily sense-making activities aimed at understanding the changing group goals and the scope of their project. As the external environment and the internal constraints changed constantly, the boundaries of the group were continuously redefined. Thirdly, a preference for email use, norms of conference calls such as task focus, interactivity, and effectiveness, and a group specific pattern of combining email and conference calls characterized how media were appropriated within the SWAT team, which facilitated group boundary drawing. Given the result-driven organizational culture as well as the time constraints, the group stressed task focus and effectiveness in team interaction via conference calls. In addition, both the leader's belief and the flat structure of the group led to an emphasis on interactivity during the group meetings via conference call. In addition to those norms of conference calls, the group also differentiated itself from others through their media preference and through how they combined email and conference call for their needs and purposes. All of these patterns and norms discussed above facilitated identity formation and the development of a sense of "groupness." Conceivably, if the group had longer life, we would expect these patterns and norms to evolve over time. Unfortunately, the fast pace and the short duration of the project did not allow the group to make many adjustments in the course

of interaction. The only exception was how the group adjusted its norm of strictly following agenda to following agenda and allowing discussion of emerging issues at the same time, which happened due to the constant changing external context and the ongoing sense-making activities within the group. In general, this study did not provide much evidence of group identity shift through redefining patterns and norms of interaction.

Another significant finding of the study was related to how the SWAT team reacted to the dialectical tension of simultaneously blurring and preserving group boundaries in relating to other interrelated groups. The study suggested, both boundary maintenance and boundary blurring occurred in within the SWAT team in relating to the intergroup system and the context. In terms of boundary maintenance, leaving voicemails to the senior management on the public relations' side prevented those individuals from further intervention in the group's internal activities. For example, it kept them from reading emails, which might have given them more detail than the team wanted to share. So it was a filtering device as well. In addition, group boundaries were also preserved through using boundary spanners to interact with the external vendors and excluding them from routine team interactions. Interestingly, in some cases, the group boundaries were blurred through allowing external forces to impact group process. Specifically, through copying meeting minutes to the senior management of KBC, the SWAT team intentionally allowed external control to influence internal group processes. The contrasting patterns indicated that some external intervention was viewed as being

beneficial to the group's internal processes and goal completion whereas others were viewed as interferences.

Lastly, with regard to internal boundary management, the study found the group studied lacked conscious attention to manage the fluctuating boundaries caused by the members' leaving and joining the group in the middle of the project. Nevertheless, a common project folder inadvertently served the function of maintaining a sense of continuity and keeping the back-up members being up to speed quickly. Additionally, the group relied on multiple channels of communication as well as a pattern of "relying to all" to manage the blurred subgroup boundaries.

In summary, findings of the study indicated how group boundaries are constantly structured in the process of communication. The members' active communication behaviors, which often happened in patterned ways, facilitated the constant definition and redefinition, maintenance, reinforcement, and blurring of group boundaries. Therefore, within bona fide virtual groups, media structuration and boundary management go hand in hand.

CHAPTER VI

CASE C

Introduction

Similar to previous cases, this case study focused on how a bona fide virtual group socially constructed its boundary and identity through internal and external communication. Specifically, a sense of group identity evolved as the members referenced to the group history, examined how others viewed and reacted to the group, and negotiated jurisdiction of tasks with other related groups. In addition, annual face-to-face meetings as well as the monthly business meeting via conference calls brought the group together. On the other hand, boundaries of the group became permeable as the members transferred interaction norms and roles from other contexts into the group context and as the membership shifted and new members brought in new norms and practices. In the meanwhile, the group studied took a variety of boundary maintenance measures in electronically mediated communication to manage the dialectical tension between blurring and permeable group boundaries and the need to maintain a group identity. Boundary maintenance measures that the group used included keeping separate email lists so that members could have private discussions about internal issues, keeping the monthly business meetings strictly internal, and using the team leader as boundary spanner so that messages from external members were filtered before being sent to all members of the group.

Description of the Organization and the Group Studied

The case analyses reported in this chapter and the next were based on longitudinal and in-depth studies of two of the five committees in a scholarly association of a major discipline. Boasting more than 5000 members, CRS is a nonprofit organization that promotes research and education in the discipline. As a national organization, CRS attracts researchers and educational professionals from different levels of educational institutions from all over the nation. In addition, CRS is a scholarly organization characterized by diversity of its membership, with the members coming from diverse research traditions and backgrounds. In terms of its culture, CRS encourages collaboration, collegiality, and mutual respect among its members. Consensus decision making was the preferred mode of decision-making within the governing bodies of the organization.

As the organizational chart (Figure 2) shows, the governing bodies of CRS include a constellation of interlocking groups, including the Leadership Group (LG), five committees, and an Intercommittee. Membership in those interrelated groups overlap, with some members belonging to multiple groups. The Chairs of the five committees serve on the Intercommittee, which handles certain issues that are the jurisdiction of two or more committees. The voting members of the LG consist of the Immediate Past President, the Current President, the Vice President, the Vice President Elect, and the five committee chairs. The LG worked with the Intercommittee and the individual committees to ensure their activities are in line with the organizational mission

statement. The committees formally report their activities to the LG on a quarterly basis.

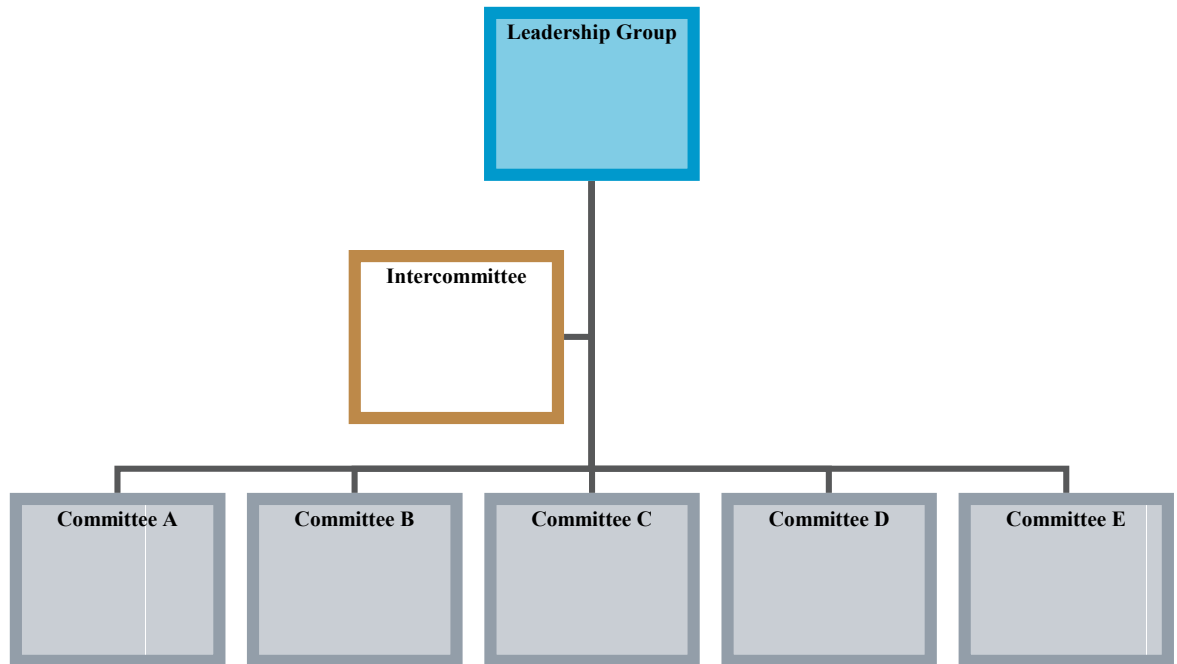


Figure 2 A Chart of CRS Governing Bodies (The Staff Team Not Included)

In addition to these governing bodies, the organization also has a staff team at the national office, which works closely with the five committees. In principle, the staff team provides most services to the members of the organization and the five committees make strategic and administrative decisions and initiate projects. For example, while one of the five committees is responsible for selecting editors for the organization's publications, the staff team interfaces with the publishers.

All members of the five committees are full time educational professionals and their services to the organization are voluntary. Each committee has five or six members,

with some committees having members from the same level of educational institutions and others from different levels. All members of the committees are elected for a 3-year term and thus, most of the committees experience membership changes every year as some members leave and new members join the groups.

CRS' constitution specifies the purpose of each of the five committees, although the committees themselves develop their own specific missions and projects. In order to ensure continuity of work, CRS developed a strategic plan, which further specifies each committee's responsibilities and projects and relates them to the organization's mission. Nevertheless, the tasks of these committees are flexible and malleable, because much of the details of carrying out the mission are left to the committees, which had to determine how to serve members and define specific projects. For example, over a period of several years, one of the committees had to develop a specific mission statement and then generate a range of projects to carry out this mission. Also interviews indicated that some of the committees experienced ambiguity regarding their mission and group identities and engaged in collective sense-making regarding those issues.

Since the members of most CRS groups, such as the Intercommittee and the five committees are geographically distributed, the members collaborated in the form of virtual groups. Communication technologies available for committee interaction include electronic mail, teleconferencing, and phone. All committees meet face-to-face twice annually, which normally happen in January and in September. Interactions in between the face-to-face meetings are mostly mediated by electronic mail and teleconferencing.

About two years ago, the organization issued a policy requiring all committees to have monthly conference calls in order to more effectively move their projects forward. Regardless of the institutionally-mandated patterns of activity, each committee tends to develop its own patterns and norms of media use. As a member of the staff team at the national office suggested, each of the committees has its own personality and that personality is reflected in how they use multiple media to interact (discussed later on in this chapter and the next).

The culture of each committee has been somewhat maintained partly due to the organization's policy to have Chair-Elects shadow their processors for a year before officially taking over. Also, each committee has developed a procedure manual and board members have a role in nominating members for each committee, which maintains continuity as well. In the meanwhile, a new chair may initiate changes or the group dynamics may shift as a result of membership changes. According to the same member from the staff team, the responsibilities and workload of all five committees has grown in the past couple of years, and as a result, interactions within each committee became more active. Two of the five committees were included in this intraorganizational comparative case study, one reported in this chapter and one discussed in the following chapter. In the remaining part of this section, I provide a brief introduction of the committee discussed in this chapter.

Being one of the five committees of CRS, the Research Advocacy Committee had the general goal of promoting and facilitating research by the association and its

members. As the *Procedures Manual* of the committee indicated, the mission of the committee was broad and inclusive. The manual further specified its mission as including but not limited to the following functions: advising research projects undertaken by CRS members, coordinating flow of information on research trends, building its members' ability to conduct research, publicizing the organization and the research done by its members, serving as a liaison with funding agencies, etc. In practice, however, given the vagueness of the written statements about its mission and goals, it was normally the case that the Chairs of the committee determined the scope of tasks for the committee. Interviews with current members of the committee suggested that the previous Chair of the committee contributed significantly to a clearer definition of the committee's tasks. Nevertheless, according to the current Chair of the committee, "there are still things that the committee needs to sort through." She was particularly concerned with being selective of the committee's projects and knowing how much the committee could handle.

Being interrelated with other groups in the organization, the Research Advocacy Committee had multiple external linkages. First, externally, the committee represented the organization to interact frequently with other organizations, particularly, the funding agencies, to promote research in their discipline and maintain a program of advocacy. In addition, the committee solicited valuable members in the field to form an Advisory Network, which served to advise the committee on an ad hoc basis and assisted with special projects. Secondly, within CRS, the committee reported to the Leadership Group

and worked very closely with the Intercommittee and the organization's External Affairs Administrator, who was a member of the organization's staff team. In some cases, the Intercommittee would ask the Research Advocacy Committee to undertake work on a project. Additionally, as the *Procedures Manual* reads, "the Research Advocacy Committee and the External Affairs Administrator are a team: the committee provides direction and academic content and the Director provides contacts, suggestions, history, context, and other important pragmatic knowledge and skills." Lastly, the committee had overlapping tasks with other committees and occasionally there were ambiguities with regard to the demarcation of responsibilities between or among the committees, whose projects were oftentimes related to each other. In addition, there were regular interactions of members from different committees so that there was the potential for the committees to influence each other in terms of managing committee processes and in terms of making sense of each committee's mission and tasks.

There were one Chair and four members serving on the committee, all of whom were full time professors from research-oriented universities. Some of the members had previous relationships before joining the committee. Among the members, there were perceived differences in rank (the committee included department chairs and full professors), experience, and influence within the field. Three of the members represented the area of social sciences and the other two represented humanities. Due to different scholarly areas represented within the committee, the group normally interacted and collaborated within subcommittees, although the committee also stressed group unity

and information sharing across subcommittees (see discussion below). In addition, there were also joint projects that the entire committee worked on and overlapping roles. For example, the committee's webpage on the organization's website was a project relevant to all. Another instance was the committee's periodic research blurbs published in the organization's newsletter.

Case Analysis

Through investigating patterns of internal and external interaction, the study found that as a bona fide virtual group, the members of the Research Advocacy Committee socially constructed the group boundaries through constant negotiation of the committee's task jurisdiction as opposed to those of the four other committees and the staff team in the organization. In addition, several factors contributed to boundary definition as well as the development and the evolution of a group identity, including referencing to the past, understanding self through the eyes of others, and internal negotiations of norms of media use. A sense of "groupness" was also created and reinforced through annual face-to-face meetings, relational interactions in electronic context, and the monthly conference calls that included all members of the team. Lastly, internal and external interactions both preserved the group boundaries and made them permeable.

Permeability

The group boundaries of the Research Advocacy Committee became permeable as the members transferred norms and roles from other contexts to the group context, as the new members brought in new norms and practices, and as intergroup communications shaped and influenced internal dynamics.

First, the study found that the Research Advocacy Committee adapted norms and transferred roles from other contexts into the group context. In terms of transference and adaptation of norms, for instance, interviews with the Chair of the committee suggested that she believed that norms of the committee's monthly business meetings via conference call were similar to the norms of departmental meetings in university settings, although she did not specify those norms. Interestingly, interviews with one member of the board suggested that departmental meetings could be handled very differently in different places, regardless of the fact that all of them were research oriented universities. For example, in some places, the norm was that the assistant professors don't talk and decisions are normally made before the meetings. In other places, equal participation might be the norm and people engage in substantive discussions in departmental meetings. The Research Advocacy Committee clearly adapted those norms to the organizational and the group context and followed a consensus approach in group decision-making. For example, with a new member from the humanity area joining the group, one existing member indicated how she paid attention to consult him before making any decisions, although it used to be the case that she was the only one

representing the humanity and her decision represented that area. In addition, the members were more supportive of each other in the context of the committee since unlike tasks in their respective departments, service on the committee was voluntary. As one member explained,

... in general, people are supportive. Because everybody is providing voluntary service to the organization and they are doing things for the good of their organization and spend hours on ideas out of their minds. That makes people more supportive and more appreciative of each other. If it's within the department, that's part of the job and people are expected to do certain things.

In addition to transferring and adapting norms from other contexts, the members of the committee also reported transference of roles from other contexts to the group context, which impacted the decision-making dynamics during the monthly conference calls. The members indicated how the existence of differences in rank, relative influence in the field, and previous experience with certain issues influenced and shaped the interaction patterns within the committee. According to one member, for instance, simply due to the fact that one of the members on the committee had been the chair of two distinguished programs in the discipline and had more experience working with Presidents and other powerful individuals, she tended to trust him and echo his opinions without hesitation. She also mentioned she would not expect having a merely social lunch with him due to rank differences.

Secondly, the boundaries of the committee were also made permeable through fluctuating membership and introducing new norms and practices into the group as membership changed. As mentioned previously, the members of CRS committees were

elected on a three-year team and as a result, each committee experienced membership change almost every year. By the time I began the study, the Research Advocacy Committee just experienced a membership change, with a new leader and two new members joining the group. As a result, new norms and practices were introduced and adapted to the committee. First, as indicated earlier, the new Chair significantly impacted the internal dynamics with her unique leadership style, namely, attuning to task and relational needs simultaneously. In addition, under her leadership, norms of the committee's conference calls were changed with more emphasis given to the "efficiency" of the calls.

Similarly, after the membership change, both existing and new members on the committee suggested new norms and practices be brought into the group interaction process. For example, one of the members, based on her struggling experience when initially joining the board, suggested that new members who came on board this year (2005) should be introduced to the committee at the annual face-to-face meeting instead of asking them to directly participate in the conference calls and email discussions before meeting the other members in person. The idea was accepted and both new members expressed extremely positive experiences in their first face-to-face meeting, as well as how those meetings made subsequent interactions in electronic context much easier. The same member also suggested that the board should discuss protocols for their monthly business meetings via conference calls during their January Planning Retreat. That suggestion was included on their agenda for the January meeting and the results of the

discussion significantly influenced the shifting dynamics of the group's conference calls. Additionally, a new member who joined the board in 2005 also made a couple of suggestions with regard to the group's communication practices, including the use of WebCams during conference calls so that the members could see each other while talking, and the use of the embedded functions in most email systems such as Microsoft Outlook to alert oneself once a sent message was received and opened so that the group could avoid sending acknowledgement notes and still know that their important messages were received. Due to both practical concerns and technological challenges, his suggestions were rejected by the other members. Nevertheless, they may impact the group dynamics in the long run if more technologically sophisticated members join the group in the future or if the group continues to experience dilemmas in email interactions.

Lastly, in terms of permeability, the Research Advocacy Committee engaged in intergroup communication and as a result, connectivity with multiple interlocking groups in the organization impacted how the group managed its internal group processes, as well as its sense-making experiences about the committee's mission and tasks. For example, the Chair of the committee belonged to multiple groups in the organization and in effect, played the role of boundary spanners. Frequent discussions in the Intercommittee about assigning tasks and projects to each individual committee facilitated her own experiences in making sense of her committee's mission and goals, which were passed on to the members. Additionally, sense-making of the group's mission and goals also occurred

through constantly negotiating task jurisdiction with external groups (see detailed discussions below).

Additionally, interactions across and among members of different committees not only impacted sense-making experiences, they also influenced how the committee managed its internal group process. For example, the previous Chair of the committee suggested that when he started on his position, the Research Advocacy Committee, a relatively mature and powerful committee now, was at an early stage of group development. The former Chair led the committee through the process of group building and sense-making of its mission and goals. One of the things he did was to initiate a *Procedure Manual* for the committee, an idea borrowed from a more established committee in the organization.

In short, the permeability of the Research Advocacy Committee's group boundaries were manifested in several aspects, including transference of roles and adaptation of norms from other contexts as a result of overlapping membership, introduction of new norms and practices through fluctuating membership, and intergroup communication. In the following sections, I discuss how the Research Advocacy Committee socially constructed its group boundaries and developed a group identity through internal and external interactions as well as how boundaries were reinforced and preserved in interaction.

External Interactions Define and Redefine Boundaries

In exploring how external interactions facilitated boundary definition and redefinition, I found two general patterns. First, the members of the Research Advocacy Committee understood its identity through the eyes' of others. Namely, how others perceived the group and reacted to the group processes reinforced some of the members' self-conception about themselves. Secondly, as mentioned earlier, the Research Advocacy Committee defined and redefined its group boundaries through constant negotiation of its task jurisdiction with other overlapping groups in the same organization.

The looking glass self. Symbolic Interactionism Theory (Mead, 1934) claimed that as individuals living in the social world, we come to understand who we are through how others react to us. The concept of the looking glass self (Cooley, 1902) seemed to apply to our understandings of group identity as well. Among the five committees at CRS, the Research Advocacy Committee was perceived to be “most effective committee.” For example, in an interview the Chair of another committee indicated that the Research Advocacy Committee was traditionally viewed as “the most powerful” group of all five committees. As the previous Chair of the committee suggested, as others indicated the group as most effective and coupled that comment with the committee's outreach and promotion mission, it really solidified his sense of the group. In addition, like other committees, the Research Advocacy Committee made sense of its group boundaries through interactions with other interrelated groups in the same

organization, through which others' perception or definition of the board's mission influenced or reinforced the committee's self conception. For example, the previous Chair of the committee indicated, as he attended the strategy sessions and LG meetings, the fact they were given certain tasks and not others and made some types of contributions and not others gave him a sense of what the Research Advocacy Committee was as a group, which was transferred to the members afterwards. Similarly, the current Chair of the committee suggested that how others, including the members of the Leadership Group, reacted to the groups' projects influenced her understanding of the legitimacy of the committee's internal activities. Clearly, the group's boundaries were partly set through others' perceptions of the group and reactions to its activities. If these perceptions and reactions seemed to be fairly consistent and made sense to the members of the group in light of their self conception, they reinforced it in a continuing cycle of structuration of a group identity.

Constant negotiation of task jurisdiction. In investigating the boundary between The Research Advocacy Committee and other interrelated CRS groups, I found "fluidity" to be the most appropriate word to describe the division of task jurisdiction among the five committees and between each committee and the staff team at the National Office. In other words, boundaries in terms of the collective goals of each group were vaguely defined and, as a result, divisions of responsibilities among the interacting groups were blurred. Consequently, each committee had to constantly negotiate projects under its purview through continuously ongoing interactions with other groups in the

organization.

First, although the current Chair of the Research Advocacy Committee believed that boundaries between her committee and the other four committees were fairly clear, she also used the word “fluid” to describe the boundaries, since discussions of whose purview a particular project was under happened from time to time within the Intercommittee and occasionally, the committees had to pass projects around. For example, there was a particular project that was initiated within the Research Advocacy Committee that was eventually passed on to another committee of CRS. According to the current Chair, the fluid boundary had not been problematic since all chairs worked together closely. Nevertheless, she predicted that it was going to be problematic once the organization had a committee Chair who does not do his or her work.

In addition, the boundary between the Research Advocacy Committee and the staff team at the National Office were described as very “unclear.” To use the current Chair’s words, “We don’t know who is supposed to do what...we keep talking to people to figure out how to work together [with the staff team at the National Office].” For example, although the committee decided to make outreach activities “a major push and effort of this committee over the next several years,” it struggled with drawing a line between its responsibilities and the national office’s responsibilities in doing the outreach project.

Consequently, the Research Advocacy Committee had to constantly negotiate its group boundaries through negotiation of task jurisdiction with external members and

groups. As soon as getting started on her job in November 2004, for instance, the current Chair of the committee engaged in transitioning work and re-thinking of the committee's scope of projects. It was her goal to manage the ongoing projects and get focused. Therefore, in her quarterly report to the LG, she pointed out her intention to consult with the group regarding projects the previous Chair handled that may not be within her committee's purview.

Similarly, occasionally, the committee had to decide whether a particular task was better handled within this committee or one of the other four committees, since the boundaries were not always as clear as they may seem to be. For example, a boundary defining event occurred during the course of this study. The Research Advocacy Committee had been involved in a project of outlining a "concept map" of the discipline, which could be used by their publisher in designing and indexing their databases of articles. Although in their initial email notifying the Chairs of four of the five committees about the project, the executive officers in the organization suggested that the Research Advocacy Committee should consider taking over the project, there were discussions within the committee about whether that project should fall within its scope of responsibilities and whether it was too big for this committee to handle. In her email to officers of the organization, the Chair suggested, "We do not see this as a Research Advocacy Committee project to get this into shape. It may in fact fit better with another committee." She stressed her point again in her subsequent email to the officers of the national office and suggested inviting the Chair of another committee to a later

conference call targeted at resolving issues related to that project. Subsequently, there were intensive back and forth discussions among the National Office, the members of the Research Advocacy Committee, and the Chair of the other committee involved. The issue was finally resolved by a conference call that included two officers of the organization as well as the Chairs of both committees. The officers decided to make it a collaborative project by inviting members of all three committees to work on it. Based on the initial work, the Leadership Group would further decide the Research Advocacy Committee's role in it. Nevertheless, the discussions about whose project it was continued afterwards. In effect, in one of his emails, the Chair of the other committee involved commented, "This project really does not belong to the Research Advocacy Committee, or my committee, or any other one entity. Since we chose to do the task through volunteer labor in the first place, it's everybody's." Clearly, the comments further blurred the group boundaries between the five committees.

In short, due to fluid boundaries between the Research Advocacy Committee and other interrelated groups in the organization, group boundary definition and redefinition with the committee occurred through continuously ongoing negotiation with external groups and members about its task jurisdiction. As a result of the negotiations, the members of the group had clearer notion of its own group boundaries as opposed to those of others. In addition, making sense of group boundaries provided the precondition for the emergence of a group identity.

Socially Constructing Boundaries in Internal Interaction

The members of the Research Advocacy Committee not only socially constructed and constantly negotiated its group boundaries through interactions with members external to the group, they also did it through how they interacted with each other within the group. Specifically, an understanding of group boundaries and a sense of group identity evolved as the members referenced the group history, discussed norms and expectations for interaction within the group, and developed patterns of internal interaction that created and maintained a sense of “groupness.”

Referencing to the past. At the outset, the group identity of the committee was partly developed through understanding the history of the group. My observation of the team interaction via communication technology started in January 2005, when a new Chair took over the committee from the highly remarked previous Chair. Under the leadership of the previous Chair, the previous members of the committee transformed the committee from one focused primarily internally to one focused external to the organization as well as internally. As a result, the committee was perceived by many members of the LG and other committees as “the most effective committee” within the organization. The transition of leadership occurred when the committee was moving in fast-pace, set on “high gear,” and a culture of productivity was already developed and was expected to continue (since the members were tasked beyond the previous Chair’s term). A new member, who joined the board in January 2005, the same time as the current Chair did, described the transitioning and the change within the board as follows:

Within the board, a lot of momentum was put in place already, and with the new leader, we saw our job as filling in the blanks and continuing with the change process while sustaining what the team had done in the past at the same time. As a new member, it was important for me to know what happened before and what new items were put on our agenda...I felt that the board worked in rapid pace, with high energy, and was going through a change process. There was emotion involved. The group was in the process of innovation and sustenance at the same time, with a reference to what happened before and also looking forward to filling in the blanks and fulfilling missions to be completed.

Evidently, the group history and the cultural residue from the past gave the members a sense of their collective identity, which obviously set boundaries for the group.

Internal discussions of norms of media use. The Research Advocacy Committee came together as a group through sharing norms of and expectations for interaction behaviors, since these norms and expectations drew a line between in-group and out-group members. In this section, I discuss some negotiated and commonly shared norms within the committee, which were both explicit and implicit.

First, explicit norms of email use were negotiated and agreed upon among the members of the committee to regulate email interactions within the committee. The discussions of norms of email use were initiated due to the sometimes overwhelming email messages that the members received as a result of serving on the committee. The “hugely increased flood of emails” troubled the members, all of whom were busy full-time university professors and were providing voluntary service to the organization on the top of their daytime work. The committee tackled with the issue at their annual face-to-face meeting in January 2005. As one member noted,

We have pretty good communication, although we did talk about whether our emails are sometimes overwhelming. We explicitly addressed that issue at the

January Retreat and tried to take some steps to address that. If XXX (an administrator of the organization) sends something to all of us and XXX (the team leader) sends back saying thank you to her. Do we need to have it?

As a result, the committee came up with a couple of explicit norms to deal with the problem, including “cutting back” on acknowledgement notes and changing “subject line” as topics shifted. The meeting minutes read, “We agreed we won’t send “thank yous” unless acknowledgement of receipt is important (do not “reply to all” unless necessary). Change and update subject lines on long threads of email to prevent confusion and to change subject lines when new topic starts.” Nevertheless, the norm generated new problems for the committee, since as a result of not sending acknowledgement notes, the members sometimes complained about not knowing if messages they sent were received or not. The new situation led to the continuous discussion and evolution of norms of email use within the group. For example, in subsequent conference calls, the committee revisited their norms and decided to adapt and loosen their “policy” by permitting acknowledgement notes “when needed.”

Norms of handling conference calls also emerged and evolved within the committee. First, like other committees in CRS, the decision-making process within the Research Advocacy Committee was guided by a norm of consensus decision-making, which was explicitly discussed in the *Procedure Manual* of the committees. Another norm that emerged in team interaction via conference calls was more implicit and was implied through internal discussions of the group’s communication practices. Implicitly, the members shared the norm of “efficiency” in handling calls. For example, during the

team conference calls, the committee tried to limit the time used for “reporting in” (which, according to the Chair, could be dealt with in memos) and focused on action items. In addition, the Chair made several changes to make the calls more effective, including sending reminders prior to the meetings, sending advance agendas, and requiring everyone get materials to one another at least 24 hours in advance. In the past, the team tended to spend too much time locating and sending documents while on the phone. In order to use the conference call time more effectively, the Chair not only sent agendas in advance, but also attached all necessary documents for the meeting with the agendas so that everything the members needed during the call were in the same file and sent to them a day or two prior to the meeting. In addition, the Chair also sent minutes every time after their conference call, in which a clear to-do-list was attached with every member’s tasks colored differently.

The members of the Research Advocacy Committee identified with the group through participating in discussions of shared norms and through abiding by those norms in electronically mediated interaction. Thus, the existence and evolution of those group norms allowed the group to tell members inside the group from those outside it.

Patterns of media use. In addition to explicitly and implicitly shared norms, there were also certain patterns of media use evolved within the group that facilitated the emergence and the maintenance of a group identity as well as a sense of “groupness.” In particular, a pattern of differentiation of media use characterized how email and conference call were used within the committee, which separated it out from other

committees and groups in the organization. In addition, a sense of “groupness” was also created through having monthly meetings and annual face-to-face meetings and the presence of relational communication in both face-to-face meetings and in electronically mediated interaction.

First, the Research Advocacy Committee differentiated itself from other groups in CRS through how it differentiated and combined the structural features of email and conference call in interacting with each other. In discussing the two media, the members tended to contrast them in terms of tasks each medium was suited for. The following pairs of subthemes were identified in comparing email and conference call use within the committee: subcommittee interaction versus whole board meeting, informational versus functional use, and specific tasks versus bigger agenda setting. First, as indicated earlier, most of the committee’s projects were delegated to the subcommittees. Consequently, in general, email interactions tended to happen within subcommittees and normally included members outside the group, such as the previous Chair of the committee and the members of CRS’ national officers. For instance, one member discussed how email was used within the committee as follows:

I’ve mentioned that we tend to use email among subcommittees and for specific tasks. For instance, for the HAD project, a lot went on via email, detailed tasks such as selecting delegates, finalizing questions on brochure, arranging for dinner and receptions, etc.

The Chair occasionally sent emails to all members of the group for information sharing, preparation and following up of the calls, and for group building purposes. The majority of the emails, however, were addressed to the members of a relevant subcommittee as

well as relevant external parties. On the other hand, interactions that included all members of the board happened via conference calls. Since most of the email interactions happened among the subcommittees, not all members were kept on the same page through email exchanges. Consequently, the committee decided to gather monthly on the phone and used the conference calls to brief all members about what was going on within the team and in particular, within different subcommittees.

In terms of the content of interactions, there was also the distinction between using email for information sharing and using the conference call for functional purposes, such as brainstorming and decision-making. Email was mainly used for sending information back and forth. One member who belonged to multiple virtual groups suggested the different patterns of email use within this committee and other groups she belonged to. According to her, she got a variety of information from the email exchanges within this committee. Nevertheless, email tended not to be used for back and forth discussions such as brainstorming, as it happened in other groups she worked with. In contrast, interactions via conference calls tended to be more functional rather than informational. Regardless of the sometimes overwhelming amount of email exchanges happened within the group, the members of the committee still perceived conference call to be the primary tool used in team interaction in that most of the important decisions and real issues were dealt with through monthly business meeting on the phone. As one of the members indicated,

I would say conference call is used as the primary tool... We have most substantive discussions in the calls. Collective negotiations, brainstorming,

renegotiation of our goals, executive decisions, and major sensitive issues were engaged in people or call meetings.

Lastly, in terms of differentiating use of email and phone, the committee tended to use email for day-to-day interactions and for coordination of specific tasks. On the other hand, the call time was reserved for discussions of issues of broader impacts, such as renegotiation of goals, nomination of future members, internal communication processes, budget concerns, and boundary management in dealing with external members.

While the above mentioned pattern of media combination separated the Research Advocacy Committee from other groups in the organization, several communication practices brought the group together. As indicated earlier, most of the committee's projects were managed within subcommittees. In addition, often the members of the subcommittees collaborated with external members. Consequently, the group faced the challenge of maintaining a sense of "groupness." The committee managed that through having regular group meetings and through relational interactions that stressed group building. First, the annual face-to-face meetings and the monthly conference calls that included all members of the committee brought the group together. Like other committees, the Research Advocacy Committee used its annual face-to-face meetings, particularly the one in January, for strategic planning and group bonding purposes. Intensive discussions of the members' collective goals and negotiation of a plan to fulfill those goals allowed the members to recognize their interdependency as the members of a group. In addition, social interactions that typically occurred during the face-to-face

meetings allowed the groups to bond together.

Although the annual face-to-face meetings were extremely instrumental for team building purposes, as a virtual group, the committee had to rely on electronic means to constantly maintain a sense of “groupness.” The Research Advocacy Committee did that through having monthly conference calls. The group initially struggled with the choice of having subcommittee calls or whole committee conference calls. In addition, the Chair of the committee indicated her intention to use the calls for decision-making instead of reporting in. Nevertheless, the group recognized the necessity to keep all members in the loop. Therefore, regardless of the above mentioned concerns, the group decided to meet as a committee on a monthly basis. The calls were used for project updates from the subcommittees as well as discussions of issues having broader impact on the committee. First, the committee stressed team wide information sharing, which was mostly done through the monthly business meetings. As the leader commented at their January 2005 Retreat, “we don’t need to know everything going on in subcommittees, although summaries and reports will be good and needed.” Secondly, the committee tended to use the monthly conference calls for discussion and redefinition of group goals, internal and external communication processes, budget concerns, and group issues such as selection of future members, all of which facilitated the maintenance of a sense of “groupness.” In effect, as one member suggested, the monthly conference calls “got the committee together.” In effect, those meetings via conference calls served the ritualistic function of group building and strengthening of group ties on a regular basis.

A sense of “groupness” was also built through the presence of relational communication in both face-to-face meetings and in electronically-mediated team interaction, which became the glue that holds the committee together. At the outset, as one member on the committee explained, ““XXX [the current Chair of the Research Advocacy Committee] is a fabulous leader. She is oriented toward the task but clearly values the input, humor, and generosity of members.” The leadership style clearly influenced the interaction dynamics within the committee. For example, an interesting episode of social interactions occurred between the Research Advocacy Committee and another committee of the organization (discussed in next chapter) during the January 2005 Retreat, in which the two committees jokingly engaged in what they called “juvenile behaviors” and wrote back and forth on the door of each other’s meeting room about which committee was the best. The episode continued after the face-to-face meeting as the two committees moved to email interactions within and between the committees. One member of the Research Advocacy Committee took a picture of the members of the other committee and posted the picture on one of CRS’ internal journals. In addition, he digitized it and added the label, “We are the second best, but we are fine with it.” As a result, The chair of the other committee emailed the Chair of the Research Advocacy Committee, who forwarded the message to all members on her committee:

I write on behalf of XXX (the name of Committee B) to say that your committee should be very afraid. We will get revenge. Look out for whoopee cushions next January...with hugs and kisses from your XXX (the name of Committee B). Remember, we’re still the best group!”

After the episode, the members of both committee indicated that it contributed to group

solidarity as well as friendliness across the committees. It also reinforced and blurred group boundaries simultaneously as the members identified with one group instead of another and also stressed the collaborative relationship between the committees (see detailed discussion in next chapter).

Relational interaction among the members of the committee not only happened in face-to-face meetings, but also occurred in electronically-mediated team interaction. Relational interactions could be observed in both email use and in how the committee managed its business meetings via conference calls. First, although the calls were always task-focused, the atmosphere of the calls was collegial and friendly. The committee tended to spend the first few minutes exchanging personal information. In addition there were brief jokes and humor from time to time during the meeting. The Chair also facilitated social interactions in some of the calls. For instance, in the first conference call after she took over, she mentioned it was her birthday towards the end of the call, which generated more self-disclosures and friendly exchanges.

Additionally, the committee also paid attention to group building in email interactions, as they tend to combine relational information into task messages. The following example indicated how the committee did that in email exchanges:

XXX (the name of the committee) Buddies:

I know I have been pummeling you with emails in the last 24 hours and late into the night last night. I'm trying to keep it to a dull roar, really I am. The most important document is the minutes and the brightly color coded to do list at the end! Please look over when you can. We really are the best the committee, well, dang it, just as cute as we can be! Thanks for ALL your work and efforts. I am delighted to work with each and everyone of you.

To summarize, the above section focused on how the group managed its group identity and socially constructed its group boundaries in internal interactions. The members made sense of its group identity through knowing the past of the group and inheriting some of the cultural values from the history. The group identity evolved as the members jointly negotiated and shared norms of team interaction, including both norms of email use such as “cutting back on thank notes” and “change subject lines” and explicit and implicit norms of conference calls. In addition, a sense of “groupness” emerged and was maintained as the members developed recurring patterns of internal interaction that reinforced a sense of “groupness.” Specifically, the committee was brought together through annual face-to-face meetings and having monthly conference calls, both of which created a sense of interdependence among the members of the committee. Relational communication present in both face-to-face meetings and in electronically-mediated interaction also facilitated team building and reinforced the group boundaries that were constantly structured in communication.

Reinforcing and Preserving Boundaries in Interaction

Through both internal and external interactions, the Research Advocacy Committee socially constructed its group boundaries. At the same time, the group also took several measures to preserve its group boundaries, particularly in interacting with external groups and members. Hence, discussions in this section will focus on various boundary-preserving measures that the Research Advocacy Committee used in external

interactions to safeguard its group boundaries, including the committee's mission statement, filtering messages from external members, constraining email information accessible to external members, and keeping conference calls strictly internal.

First, both the previous and the current Chair of the Research Advocacy Committee indicated the significance of having a mission statement as boundary-preserving measure. As the current Chair indicated, in face of fluid boundaries among the interrelated groups, she attempted to be proactive in communication by "knowing what we are doing and communicating that to others." In that sense, the previous Chair facilitated the development of a clear mission statement for the committee and a variety of projects to substantiate that mission. As a result, through announcing and adhering to its mission, the committee sent a very clear and consistent message to other groups about their group boundaries and its distinctive identity as a collective.

In addition, group boundaries of the committee were also reinforced in external interaction. The group took several specific measures in electronically-mediated interaction to maintain its boundaries. First, the organization created group email lists for each of the five committees in yahoo groups, which included members of the staff teams. These email lists were created so that the staff members could sit on email interactions within the committees. Nevertheless, the previous Chair indicated that he kept two separate email lists, one with the staff members on it and used for open discussions, and the other with only the committee members and used for private discussions. The private email list was especially used when the committee were trying to figure out how to frame

things so the staff would understand and/or support them. Similarly, the current Chair was also selective in copying email messages to the staff members, since she did not want them to be too involved in internal decisions. Those tactics of email use clearly preserved the boundaries of the committee.

In addition, for boundary preserving concern, the Research Advocacy Committee purposefully excluded the staff members from participation in the committee's business meetings via conference call. As both the past and the present Chair of the committee indicated, some of the staff members tended to take the floor for extensive periods of time and to redirect the discussions, which negatively impacted the committee's ability to finish planned business and to stay on agenda. As a result, the committee decided to keep its business meetings internal most of the time and instead, copy the related groups and individuals meeting minutes when needed.

Moreover, boundaries of the committee were further protected through filtering messages from external members, specifically, a staff member that the group worked closely with. The members agreed that email messages from that staff member should be filtered by the Chair of the committee before being forwarded to the members, although the group gave her the permission to interact directly with its subcommittees. Since the staff member tended to send both valuable and unnecessary information via email, the members felt that they needed filter those messages so that they would only receive valuable and related information. Therefore, the members nominated their Chair to be the gatekeeper as well as boundary spanner for the group and gave her the authority to

decide what information the members would need to know and what were considered unnecessary for them. Thus, through developing a specific norm of email use, the board preserved its own boundary and restricted direct interactions with that staff member to specific tasks within the subcommittees.

Finally, the committee also negotiated with external members when the group boundaries were invaded. For instance, the current Chair indicated that the staff member who worked with the group used to write to the Leadership Group on behalf of the Research Advocacy Committee. The Chair stopped her from doing that since she was neither the leader nor a member of the committee.

The above discussions of boundary preserving measures used by the members of the Research Advocacy Committee in interacting with both internal and external members in the electronic context suggested how the boundaries of the group were not only constructed in interaction, but constantly maintained through internal and external communication. These specific tactics allowed the group to maintain its boundaries in face of the challenge of the permeability of group boundaries.

Discussion

In this case study, I focused on how a bona fide virtual group socially constructed its group boundaries and preserved its boundaries in interaction. Particular attention was given to how patterns and norms of media use facilitated group boundary management and identity formation. Specifically, following a bona fide perspective, the study

attempted to understand the permeability of the virtual group studied, how its external linkages affected the internal group process, and how group identity and boundaries were constantly defined, negotiated, and preserved through internal and external communication.

Overlapping with multiple groups in the organization, the committee exhibited the permeability of its boundary through overlapping and fluctuating membership and intergroup communication. Consequently, the members adapted norms and transferred roles from other contexts into the group context. In addition, the group identity evolved as new norms and practices were introduced into the group as a result of membership change. Intergroup communication impacted internal processes in term of both sense-making of mission and goals and managing internal processes.

In face of fluid and permeable group boundaries, the virtual group socially constructed, defined, and redefined its boundaries through internal and external communication. Externally, the group made sense of its boundary and reinforced its self conception through how others viewed and reacted to the group. In addition, constant negotiation of task jurisdiction with the organization and other related groups shaped and reshaped the group boundaries. Internally, a sense of “groupness” was created and maintained through developing patterns of interaction within the group. The members made sense of the group’s identity through referencing to the group history and reinforced a group identity through negotiating and sharing group norms. In addition, the group came together through developing group specific consistencies of media use and

creating a sense of “groupness” through certain patterns of media use, such as annual face-to-face meetings and monthly conference calls and making relational communication part of the group interaction process.

The study further identified several measures that the bona fide virtual group took to preserve its group boundaries. First, a mission statement facilitated boundary management in that it allowed the group to identify itself and to differentiate itself from other committees in the organization. Secondly, group boundaries were preserved through developing patterns of media use that limited the intervention of external members, including constraining the external members’ access to email interactions and excluding them from the group meetings via conference calls. Thirdly, through filtering messages from external members and designating a boundary spanner, the group in effect defined and solidified its boundaries. Lastly, the group negotiated with external members when group boundaries were infringed upon.

In summary, the study suggested that boundaries of bona fide groups are not fixed or taken for granted. Instead, they are constantly constructed in communication. Through developing recurring patterns of internal and external interactions, these groups structured, redefined, and maintained group boundaries. A group identity evolved as a result of sense-making of the group’s collective mission and goals, understanding of the group’s history, reinforcing self conception through others’ perceptions, developing unique patterns and norms of interaction, and a sense of interdependence and “groupness” created in interaction.

CHAPTER VII

CASE D

Introduction

In this case study, the group studied experienced ambiguity of its group boundaries in terms of its mission and goals. Consequently, the group engaged in internal and external sense-making activities to make sense of its mission and goals. As a result, sense-making and boundary construction occurred simultaneously. Similar to the other groups included in this study, the group discussed in this case study also experienced dialectal tensions in face of the permeability of group boundaries. The study explained how the group managed those tensions through its communication practices, some of which preserved the group boundaries. Different from previous cases, the group discussed in this case study experienced membership change in the process of this study and subsequently, significant identity shift. Shifting patterns and norms of group interaction reflected that identity change.

The Group Studied and Related Groups

The case study discussed in this chapter was conducted within another committee at CRS (please refer to Chapter VI for background information of the organization), the Educational Committee. The two committees shared a similar organizational context and some of the institutionally-mandated communication practices, such as two annual face-

to-face meetings and the availability of electronic mail and teleconferencing for team interaction. Nevertheless, as the following discussions indicate, different group dynamics and patterns of media use developed and evolved within the Educational Committee as the members struggled with making sense of its mission, defining and redefining group boundaries, and developing a group identity.

The Educational Committee had the general goal of promoting education in the discipline through developing, overseeing, and supporting educational policies and projects at all levels of academic inquiry. Like other committees in the organization, the Educational Committee had a broad, inclusive, and vaguely defined mission. As the Chair of the Research Advocacy Committee commented, unlike other committees, her committee and The Educational Committee did not *have* to do anything. In other words, the two committees did not have organizationally assigned tasks and therefore, their scopes of responsibilities were broad and flexible.

In effect, among the five committees of CRS, The Educational Committee had a particularly difficult time in making sense of its missions and goals. Unlike what happened in the Educational Advocacy Committee, in which the previous Chair initiated and facilitated the sense-making experiences within the group, the current Chair of the Educational Committee reported not having a clear sense of the mission of her committee until the third year on her job. Before she took over the committee in November 2002, the members of the committee neither had a clear notion of their mission nor a sense of continuity about what the committee as a whole had been

contributing to the organization. Therefore, in terms of goal definition, the two committees were at different stage of group development when the studies were conducted. Within the Educational Committee, sense making regarding its mission started with the current Chair and continued under her leadership. One member interviewed described her uncertainty and confusion about the committee's mission prior to the current Chair joining the committee as follows:

Under the first chair, that was my first year, I was very confused about how The Educational Committee was functioning, what its tasks were, and specifically what my role would be. And all I really had to go on with was a few documents sent by snail mail from the past chair about various things that the committee had done in the past. I had no notion about what the committee was currently working on or what it planned to work on in the future.

Not only did the group lack a clear mission, it was also in need of a clear group process or a mechanism to function as a group. The prior Chairs of the committee left little written history of the group, few documents, and no minutes taken from past committee meetings. Therefore, during her three-year term, the current Chair had to address uncertainty in both regards, namely, a clear notion of the committee's mission and a mechanism to enable the committee to function as a group and develop a group identity.

With regard to external linkages, similar to the Research Advocacy Committee, the Educational Committee was also situated within and interconnected with overlapping groups at CRS. First, the committee reported on a quarterly basis to the Leadership Group. The committee also worked closely with the Intercommittee comprised of the chairs of the five committees. In effect, the Intercommittee defined the strategic goals for

the committees and assigned responsibilities and sometimes, specific projects to each committee. The Educational Committee also frequently consulted the Leadership Group and the Intercommittee with specific project ideas. For example, at one point the committee had an idea of developing a template of questions so that each of the organization's divisions could describe the types of research and educational activities they engaged in. They called it "the Big Picture" project. The committee consulted the Intercommittee with that particular idea, and the Intercommittee determined that this project may be "too big for some units to undertake, that it would be difficult to keep it current, and that the newly-devised CRS website and guidelines for posting on-line courses may already be sufficient for communicating information requested by the Big Picture Project." Instead, it was suggested that the Intercommittee pull together a template that could be used by units for posting items to their websites. Moreover, like the Research Advocacy Committee, the Educational Committee had joint projects and overlapping goals/roles with other committees in the organization. Additionally, the committee collaborated closely with the staff team, in particular, the External Affairs Administrator. (the ambiguity of their authorities and responsibilities will be discussed below).

Like members in other committees of CRS, the members of the Educational Committee were elected by the members of the organization to provide voluntary service to its members. The members came from and represented different levels of educational institutions, including research oriented universities, community colleges, and K-12

schools. Therefore, in comparison to the Research Advocacy Committee, this committee was a relatively heterogeneous group in term of the members' organizational affiliations. By the time I began the study (September 2004), the committee had one chair and four members. Two members finished their terms (three years) and left the committee in November 2004. In addition, three new members joined the committee afterwards so that it became a group of six members. Among the six current members, there was a Chair, a Chair-Elect, and four members. Both before and after the membership change, all members were individually dispersed in different geographical locations throughout the country, crossing three time zones (Eastern Standard Time, Central Time, and Mountain Time). Similar to other committees, face-to-face meetings, conference calls, and electronic mail were the three types of media that the members of the committee used to interact with each other and to coordinate their work, although the process was structured differently (see detailed discussions below).

Case Analysis

Blurring Group Boundaries

As I indicated in Case C, among the interrelated groups at CRS, neither the boundary between the five committees nor the boundary between each committee and the staff team at the National Office was clearly defined. Specifically, the members of the Educational Committee struggled with understanding of its mission and its functions as opposed to those of the other committees. In addition, both the Chair of the committee

and a member of the staff team at the National Office reported ambiguity or fluidity in the division of authorities and responsibilities between the committee and the staff team.

The Educational Committee as a “dumping ground.” In comparison with the Research Advocacy Committee, there was more ambiguity about its mission within the Educational Committee. A question that the members of the committee frequently asked themselves was, “Where do we fit?” The lack of a clear notion of its mission not only caused uncertainty internally, it also affected boundary management in interacting with other overlapping groups in the organization. In addition, although the lines of responsibilities of each committee seemed to be clearer to the Chairs of the other committees, it was not as clear to the members of the Educational Committee. As the Chair of the committee indicated, the Leadership Group at CRS lacked a clear understanding of the roles of its committees. In addition, the Intercommittee which assigned responsibilities to each committee needed to be more specific about the functions of each committee.

As a result, the members of the Educational Committee felt themselves to be the “dumping ground” for projects that did not fit anywhere else. For instance, the Chair indicated that among the five committees at CRS, the Educational Committee was the only committee that worked with special committees and oftentimes, it happened because those committees or special task forces needed a logical home within the organization. For example, there was a project coordinated by a special task force, which was developed as a result of the vision of the former President of CRS. The project was

considered to be very a successful project but a valuable left-over as well. The task force needed a unit within the organization to report to. Therefore, the Educational Committee was contacted and asked to be its logical home because it did not fit anywhere else.

In effect, through being the “dumping ground” for projects that did not fit, the boundaries of the Educational Committee seemed to be so blurring that the Chair suggested that she felt that the organization needed another committee, although she was not sure what it should be. At the same time, she reported that the Strategic Plan announced by the Intercommittee made understandings of her committee’s boundary clearer, in part because the boundaries of the other committees were clarified.

A boundary that was never clearly understood. Similar to what happened to the Research Advocacy Committee, the boundary between the Educational Committee and the member of the Staff Team that the committee worked closely with, the External Affairs Administration, was also ill defined. Within the organization, the general understanding was that the committees made administrative and strategic decisions and initiated projects, whereas the Staff Team provided most services. In practice, however, the division of authority and responsibility between the committee and the staff members who worked with the committees were very ambiguous and constantly negotiated through interactions (many of those interactions happened in electronic context, which sometimes added another layer of uncertainty). An interview with the External Affairs Administrator, a staff member who was designated as the official liaison between the National Office and both the Research Advocacy Committee and the Educational

Committee suggested, for example, that she viewed her role and her relationship with the committees she worked with as very elastic and constantly negotiated. She reported her shifting role as a result of director changes and work style differences among those directors. For example, she used to be very involved in the Educational Committee's conference calls through drafting agendas and presiding in the calls when she worked with the previous Chair. She did not participate in any of the calls under the leadership of the current Chair. Therefore, she believed that there should be more clarification with regard to the division of authority and responsibility between the members' side (where the Leadership Group, the Intercommittee, and the five committees belonged to) and the staff's side. Although the organization started facilitating sense-making with regards to the functions of each committee, the staff members' roles and responsibilities were not included in those discussions. In effect, the Chair of the Educational Committee was not aware of the fact that the External Affairs Administrator was appointed as an official liaison between her committee and the organization until May 2005, the third year on her job. The Chair copied most of the committee emails to the External Affairs Administrator simply because "she seemed wanting to know" what's going on within the committee.

In summary, the above discussions indicated as a bona fide group, the Educational Committee had overlapping roles and interlocked with other groups within the organization. Oftentimes the boundaries between the committee and other groups were blurring and constantly shifting. Consequently, the members of the committee had

to constantly negotiate the boundaries between themselves and others they were interconnected with through ongoing and continuous interactions. Therefore, as the following discussions suggest, constant communication with members inside and outside the group facilitated the definition, revision, and maintenance of group boundaries for the Educational Committee.

The following sections are dedicated to discussion of how group boundaries were managed and group identity evolved through both internal and external communication practices. I first explain how the group constantly negotiated and made sense of its mission through internal and external communication. Then I discuss how, through interactions with other interlocking groups, the members of the Educational Committee negotiated and preserved its group boundaries, expressed its shifting group identity, and simultaneously managed various types of dialectal tensions. The final part of this section focuses on how the virtual group defined its boundaries and expressed its shifting identities through developing and shifting patterns and norms of media use internally.

Defining Boundaries through Sense-Making Activities

One of the goals that I had in this case study was to understand how sense-making of its mission and boundary management occurred concurrently and continuously within the Educational Committee, as a result of which a sense of group identity evolved. For that purpose, I explored what types of sense-making activities that the committee engaged in both internally and externally to understand and constantly

negotiate its boundaries.

As suggested earlier, when the current Chair took over the committee in September 2002, there was tremendous confusion and uncertainty within the group with regard to its mission and its identity. The committee needed a clearer notion of who they were and how they were contributing to the organization. Consequently, in search of its mission and its identity, the committee engaged in various ongoing sense-making activities to define and constantly redraw its group boundaries.

As discussed previously, sense-making activities started with the current Chair (with the help of two members who joined the committee before the current Chair did) and continued under her leadership. As soon as the Chair joined the committee, the committee met face-to-face in January 2003, when the committee initiated intensive sense-making activities. One member explained what happened during that January Retreat as follows:

When I got to the Retreat the next day and started talking about the projects, one of the first tasks we were engaged in, and XXX [then a member of the group] was wonderful helping with this, was to clarify our mission, to examine the tasks that we had performed, to get a sense of what's current on our plate, to get a sense of the expectation for our committee from the national office. So in a way we were a kind of reorganizing and restructuring.. And that first retreat was committed to a great deal of examination and planning and to organizing so that we understood what the committee was set to accomplish. That was a huge thing.

In that meeting, the members of the group dug through all available documents, learned history of the committee from the members who had longer experience with the organization, and made sense of its mission through internal discussions. As a result, the committee set priorities for itself and revised its mission statement. The internally-

developed mission was posted onto the organizational website. Through doing that, the group affirmed its identity to other members in the organization.

Nevertheless, that January meeting was only the start of their sense-making experiences, since the boundaries were constantly redefined and negotiated in the process of internal and external communication. Internally, the committee continued to make sense of its mission through prioritizing its responsibilities defined in the Strategic Plan by the Intercommittee, brainstorming and evaluating project ideas, and through communication episodes such as renaming itself. First, with the announcement of the Strategic Plan by the Intercommittee in the following year, the committee had an official document to rely on in interpreting its mission. The members voted to prioritize its responsibilities in accordance to the Strategic Plan and met in September 2004 to discuss those rankings. In addition, part of the committee's ongoing activities was to decide whether they wanted to sponsor a particular project. In making those decisions, the committee tended to vote on the basis of the fit between the project and the committee's mission statement, which allowed reinterpretation of the mission statement and sometimes, redefinition of the group boundaries. Moreover, communication episodes occurring within the committee facilitated further sense-making. For example, the committee recently engaged in threaded email discussions on changing the name for the committee, in which some members raised doubts about why a particular word was in the name of the committee and whether the repetition of one word in the names of the Committee and one other committee in the organization caused confusion. The

discussions suggested that the committee continued to clarify its scope of responsibilities and differentiate itself from others.

Externally the committee made sense of its mission through intercommittee interactions and through negotiating its scope of responsibilities with other groups in the organization. For example, serving on the Intercommittee, the Chair frequently discussed lines of responsibilities of each committee and assigned projects to those committees. As the Chair indicated, those discussions facilitated sense-making since knowing others' boundaries helped her to understand the boundaries of her own committee. In addition, the current Chair initiated "real communication" and coordination with other committees. Intercommittee interactions facilitated the development of project ideas and led to intercommittee collaboration. For example, during the interviews, it was frequently mentioned the Chair of the Educational Committee and the Research Advocacy Committee were close friends and therefore, discussed opportunities of co-sponsoring projects. In effect, the Educational Committee initiated outreach efforts as a result of interaction with the Research Advocacy Committee. In addition, it also decided to play a part in a project that the Research Advocacy Committee initiated two years ago. Thus, collaborative experience like those impacted the Educational Committee's understandings of its mission and scopes of responsibilities. At the same time, through external interactions, the committee negotiated its boundaries with other groups. For example, in resisting becoming the "dumping ground" for projects that did not have logical homes, the Educational Committee had to say "no" to certain project assignments

from the Leadership Group or the Intercommittee. Negotiation experiences like those allowed the Educational Committee to adhere to its mission. They also clearly contributed to further sense-making and reinforced group boundaries.

To summarize, given the ambiguity of its mission and the blurred boundaries between the groups within CRS, the Educational Committee made sense of its mission through continuous interactions and negotiations with members from both inside and outside the group. These ongoing sense-making activities facilitated group boundary construction and reinforced group boundaries.

Managing Dialectical Tensions in External Interactions

Like most bona fide groups, the Educational Committee faced the difficulty of managing the tension between collaborating with external members and preserving group boundaries at the same time. The Educational Committee negotiated and preserved its boundaries and expressed its shifting identities through interactions with other interrelated groups. Specifically, the study identified three means indicating how group boundaries and dialectical tensions were managed in external interactions, namely, through keeping an evolving mission statement, developing patterns of media use in interacting with external members, and externally, through managing identity issues during intercommittee interactions.

An evolving mission statement preserving group boundaries. At the outset, the Educational Committee experienced the tension of uncertainty about its mission inside

the group and the necessity to have a clear mission statement to preserve group boundaries in external interactions. Therefore, the group engaged in all types of sense-making activities introduced earlier to manage the dialectical tension and to understand its group boundaries. Those sense-making activities towards a consistent and clear mission statement not only served the function of reducing uncertainty from within and allowing the development of a group identity, but also served the function of preserving group boundaries in interacting with members outside the group. Specifically, an evolving mission statement equipped the committee with a tool in resisting to be the “dumping ground.” As the Chair indicated, the previous Chairs of the Educational Committee could not say “no” to projects that they thought were dumped onto them, simply because they did not know what their mission was. As a result of having a mission statement and keeping it fresh and consistent, the members of the Educational Committee developed a clearer understanding of the committee’s boundaries and at the same time, prevented the group from being redirected by distracting external forces.

Managing boundaries through media use. As suggested previously, the Educational Committee had overlapping responsibilities with the External Affairs Administrator of the organization, who was a member of the staff team. It proved to be a real tension to manage, particularly when the lines of responsibilities between the committee and the staff members were not clearly defined. On the one hand, the committee needed to keep her posted of the committee activities and to collaborate with her in whatever way that the two sides negotiated and agreed. On the other hand, the

committee needed to preserve its boundaries through excluding her from participating in internal committee decisions.

As a result, patterned communication practices evolved within the committee in interacting with the External Affairs Administrator in electronic context. The Educational Committee managed the tension through including her in most email exchanges but excluding her from their conference calls. First, the Chair included her in the committee's email list and sent her most of the committees' email exchanges. Through doing that, the External Affairs Administrator was included and excluded at the same time. She was included because the committee kept her in the loop and kept her informed of committee's activities. She was excluded because by copying her of the email exchanges only, the committee limited her role to an information recipient and thus, prevented her from exerting further influences on its internal processes through active participation.

As mentioned earlier, the External Affairs Administrator used to play an active role in the committee's conference calls when she worked with the previous Chair of the Educational Committee. She prepared the call with the previous Director of the committee and actively participated in those calls. Nevertheless, it was a conscious decision made by the current members of the committee not to include her in their business meetings via conference calls. The External Affairs Administrator tended to suggest project ideas during the calls, which threw the meetings off track. In addition, without a clearer understanding of the committee's mission, she tended to dump projects

to the committee, thus negatively affecting the committee's intention to adhere to its mission. As a result, the members of the committee agreed that she would not participate in the calls.

Interestingly, the External Affairs Administrator understood it as a tradition instead of some one's conscious decision that the staff members did not participate in the committee meetings via conference calls (although my observation indicated it happened in another committee that the staff member who was designated as their official liaison was regularly invited to their conference calls). To her, it did not seem to be a boundary issue and since there were not many confidentiality concerns, she desired to be included more than being excluded in those calls.

Intercommittee relational exchanges reinforcing and blurring group boundaries.

In interacting with external groups and members, another tension that the Educational Committee had to address was related to the blurring boundary between the the Educational Committee and other committees at CRS. On the one hand, the Educational Committee needed to reinforce its group boundary and express its group identity through differentiating itself from other committees. On the other hand, frequent intercommittee collaboration suggested that group boundaries were fluid and needed to be blurred sometimes. Field observation of the January Retreat meeting when all committees met face-to-face suggested how the Educational Committee managed that tension through relational exchange with members from other committees.

First, the January face-to-face meetings that happened annually provided the

committees with an opportunity to express their group identities through how they interacted as a committee, since all committees were gathered in the same building and laughter and jokes were frequently “overheard” by the members of other committees. Field observation of the January Retreat in 2005 indicated that through their communication behaviors, The Educational Committee announced its unique identity to others, since it was the only group that laughed loudly and frequently and put posters in the hallway claiming the committee to be the best group. In effect, the laughter was so loud and frequent that one members of Research Advocacy Committee jokingly indicated she wanted to join them as a fun group, which was instantly rejected by the Chair of that committee, who said, “We’re a fun group to work with.” Thus, the Educational Committee expressed itself as a highly cohesive and fun group through those communication behaviors, which gave the group an identity and differentiated it from other committees.

Another aspect of the group’s identity—its shifting identity was expressed through relational intercommittee exchanges. In Chapter VI, I described an episode of relational exchange between the Research Advocacy Committee and the Educational Committee during that January Retreat, in which the members of the two committees engaged in a series of jokes about which committee was the best group among the five committees at CRS. Intercommittee relational interactions like those certainly served the function of reinforcing group boundaries, since through those exchanges, the members identified with one group versus another and expressed and affirmed that identity

through claiming their committee as the best group. In addition, for the members of the Educational Committee, the episode also served the additional function of openly announcing its shifting identity, namely, their intention to evolve from a weak committee to a stronger group (see detailed discussions below). The Chair of the Educational Committee's comment that the episode was "a little fun and a little competition" suggested a serious layer of meaning implied by the seemingly joking intercommittee exchanges. As discussed previously, the Research Advocacy Committee was traditionally viewed to be the most powerful and productive group among the five committees at CRS. At the same time, the Educational Committee was perceived to be the weakest of all. With three active new members joining the committee in 2005 and the Chair's vision to change the committee from being reactive to being proactive, the committee saw its influence in the organization as increasing and the shifting identity was expressed through the joking claim that "we're the best group."

On the other hand, as the members suggested, the episode not only reinforced group solidarity, but also conveyed friendliness between the committees. Consequently, intercommittee connections were further strengthened and thus boundaries became blurred in that sense. As the members explained, that episode happened mostly because the members from both committees were aware of the fact that the Chairs of the two committees were close friends and they expected more collaboration between the committees as a result. In effect, during the episode, one member from the Research Advocacy Committee wrote on a paper posted on the door of the Educational

Committee's meeting room, "We're the best group because we value intercommittee collaboration." Therefore, interestingly, a single episode of relational exchange facilitated the management of the dialectical tension in managing intercommittee relations, namely, reinforcing and blurring group boundaries simultaneously.

The Evolution of Patterns and Norms of Media Use

The section above focused mainly on discussions of how the members of the Educational Committee dealt with various types of dialectical tensions and thus, managed their group boundaries in interactions with other overlapping groups. In the following section, I turn to discussions about how the group boundaries were defined and a group identity was developed through developing group-specific communication practices, namely, patterns and norms of media use. As the previous case studies suggested, an important way that virtual groups constitute themselves and manage group boundaries is through developing patterns and norms of media use. These patterns and norms are developed through various sources including organizational context, the members' experiences in other contexts, and those emerged within the group based on the members' negotiations and communication behaviors. In addition, those patterns and norms may evolve as new concerns and problems arise and external and internal conditions change (e.g., membership change). As group-specific way of interacting with each other and group-specific rules regulating and explaining the members' behaviors emerge and evolve, virtual groups develop a group identity and in turn, a sense of

“groupness.” The ensuing discussions explain what patterns and norms evolved within the Educational Committee through the members’ communication behaviors and habitual patterns of media use, through which the members differentiated themselves from other groups and defined their group boundaries. As the group experienced membership change midway through the study, there was a shift in patterns and norms. Therefore, I organized the discussion as follows: I first discuss patterns that held throughout the life of the group, followed by discussions on stage-specific patterns and norms.

Consistent norms. First, as suggested earlier, when the current Chair of the Educational Committee took over the committee, it not only faced uncertainty in understanding its mission, but also the lack of a mechanism to function as a group and therefore, a group identity. The members of the committee were unsure how as a committee, they were contributing to the organization, if anything. The members struggled with the questions of “who we are” and “where we fit.” In addition, the members felt a lack of continuity of their work as a result of frequent leadership/membership changes. Consequently, as soon as the current Chair joined the committee, the members of the Educational Committee negotiated and agreed on a norm of numbering their projects and developing a document called *Project Summary*, in which they recorded group history and maintained a sense of continuity. Through that notation system, the members assigned a number (e.g., 2004.5) to each individual project the committee completed as well as ongoing and pipeline projects. Thus, the *Project*

Summary the members shared electronically and used for new member orientation became both an archive recording team history and a living document facilitating organization of current projects. By the time the study was completed, a total of thirty projects were listed in the *Project summary*, along with the contact people for each project and their status. Evidently, the norm of notating their projects and recording them in one place gave the members of the committee a sense of identity and continuity, since it became a shared team space and a common reference point. Referencing those projects enabled them to know who they were, what the committee as a whole had accomplished in the past, as well as their collective goals and businesses presently. In the meanwhile, the number system was also pretty cryptic to anyone outside the group, and knowing they had a “secret code” probably heightened identity as well.

Secondly, a culture of “work hard and play hard” was developed with the Educational Committee and as a result, “high level of group maintenance” evolved as a significant norm that singled out this particular virtual group from other groups that the members belonged to at the same time or had belong to. The norm had been maintained regardless of membership change occurred midway through the study. Almost every single member of the group indicated that in comparison to other groups they belonged to, there was more group maintenance within the Educational Committee. For instance, when being asked for the explicit and implicit norms within the committee, the Chair of the committee explicitly mentioned, “You can’t be on the committee unless you are a fun person.” The members on the committee suggested that they not only worked together

effectively, more importantly, they laughed together, truly enjoyed each other's accompany, and had fun working within the committee. One member described socialization as an important group norm:

Just the friendliness. We enjoy one another's company. We enjoy laughing and relaxing with one another. And I think that facilitated the work that we did at the committee. I think that's important norm, we enjoyed fun, relaxing time together in addition to our working time together.

Although the group met face-to-face only twice a year and relied on electronic media for team interaction the rest of the time, the members frequently shared fantasy themes (Bormann, 1980) and considered group building to be an important part of group life. For example, in the 2005 new member orientation, the members shared with the incoming members a standing joke that "XXX (a previous member on the committee) was left behind because he was not a fun person to work with." In addition, the members almost always left their face-to-face meeting with a joke or a fantasy theme that would be picked up in later discussions. For instance, after the September 2004 meeting, the members continued to joke about retrieving Plaques honoring the withdrawing members' service from the top of the Chair's refrigerator (where they were left prior to her departure for their face-to-face meetings). One member distributed jars of jelly to every member during their 2005 Retreat, which made where to get good jelly another topic that the group revisited from time to time in later email exchanges and interactions during the conference calls.

In addition, the norm of "high level of group maintenance" was also reflected in the group specific email styles and the informal and friendly atmosphere that

characterized the committee's conference calls. For instance, a new member described the "multidimensional" nature of the messages exchanged among the members of the committee as follows:

We are highly multidimensional and complex because we are such a cohesive group. We have a high level of maintenance orientation and a high level of task orientation. Our task messages are blended into the social stuff. We rarely have messages that are straightly social or straightly task focused. We don't separate them out.

In summary, two consistent norms both before and after the membership change appeared to contribute to group identity formation and group boundary management, namely, a numbering system to notate all committee projects and a norm of high level of group maintenance. The norm of recording the group history through a notation system facilitated identity formation in helping the members to understand who they were and what contributions they made to the organization. The indication of common goals and the continuous work towards those goals implied by the *Project Summary* united the members into one entity. At the same time, group boundaries were defined through a unique norm of intensive relational communication happened in both face-to-face meetings and in electronically-mediated interactions via email and conference calls. The norm led to the development of group-specific patterns of media use, which bound the group together and differentiated it from other groups in the organization.

In addition, since the group experienced membership change and evolving understanding of its mission, patterns and norms of interaction evolved as well. Contrasting patterns and norms before and after the membership change that also

contributed to group boundary management and identity formation are discussed below.

Stage one—“*We’re unlike others... We do a lot of emails.*” Prior to the membership change in September 2004, one significant pattern of media use that differentiated the Educational Committee from other committee was the use of email as a primary tool in team interaction and the use of conference calls on occasional basis and mainly for the purpose of boosting morale. In the 2005 orientation meeting for the new members, for example, the Chair of the committee explicitly mentioned, “We don’t do a lot of calls...We’re unlike other committees...We do a lot of emails.” In effect, the team reported having two or three conference calls annually, in comparison to having a call every four or six weeks happened in other committees at CRS. Therefore, against the organizational expectation for the committees to use monthly conference calls to move things forward, the Educational Committee adapted media to its group context and its unique pattern of combination of multiple media separated it out from other committees and gave the group its unique “personality.”

Email was used for information distribution, following up on things, solicitation of ideas, and coordination of call schedules. The following statements made by one member of the group suggested how email were relied upon and used within the group:

So XXX [the team leader] provided the leadership that created that continuity by ... maintaining consistent a telephone and back and forth email system to remind us of what our projects were, who were responsible for which projects, to get updates of those projects, assign specific tasks that she feels necessary, and to gather feedback from us about the projects we were responsible for...and we have deadlines. Those deadlines were clearly communicated, reinforced through pretty regular email that XXX [the team leader] initiated and sent to the members of the committee.

The primary use of email was a conscious decision negotiated and agreed upon by the members on the committee. Email was preferred within the group due to characteristics of member composition before the membership change. First, there was perceived power imbalance within the committee, with some members perceived to be more influential in the organization and in the field than others, particularly those from research oriented institutions. Secondly, due to the heterogeneity of the members, they exhibited different mindsets in conflict situations. Specifically, some of the team members had a mindset that was against open confrontations and heated debates, which were perceived to be normal and healthy by others. Third, in terms of personality, two shyer members joined the team in 2003, which were less likely to openly state their opinions and therefore, influenced the interaction dynamics in conference calls.

Therefore, email became the preferred technology since it allowed time to deliberate, private expression of opinions, and equal participation. For instance, one member interviewed explained, “I think they prefer email to the conference calls because we always feel a little on the spot in the conference calls...” As explained earlier, due to the membership composition, the members of the team represented different constituency groups and felt obliged to express opinions from the perspective of the group they represented in team meetings via conference calls. As one member explained:

It seems to me that the members of the committee’s representation of various areas, K-12, community college, and other constituency group, and our influence on a particular project is based on the constituency group that we have representation of. For instance, whenever we talk about a particular project, I feel obliged to provide comments from the community college’s perspective on that

particular project.

Since information exchange during conference calls required immediate response and spontaneous interactions, the members felt to be put on spot in interactions via conference calls. On the other side, the members suggested information exchange via email not only allowed them to do it at their own time frame, but allowed them time to reflect before responding to any issues, policies, or specific projects.

Additionally, the leader of the Educational Committee was aware of the power imbalance within the group and therefore, chose to use email as the primary interaction tool for the purpose of leveling the playing field. Since there can be one person talking at any given time during the conference calls, people have to compete for floors when meeting via teleconferencing. Therefore, the shyer members as well as those who perceived themselves to be less influential in the organization might not have an equal chance to participate in brainstorming, sense-making, and decision-making activities when it was done via phone meetings. On the other hand, email interactions are less constraining in that regard.

In addition to using email, the Educational Committee used conference call as a secondary tool. Interestingly, conference call was described as being “less effective” in task completion but necessary and useful for “boosting team morale” and “developing group identify.” Given her vision to make the committee more proactive, the team leader intended to manage the calls in an efficient way. She sent an agenda prior to each call as well as documents for the members to review before the calls. Regardless of that,

she reported that the conversations tended to drift away during the committee's conference calls and in comparison to email exchanges, interactions via conference calls were described as being less effective, since people "laugh, socialize, and tend to drift away." Nevertheless, the members of the team considered those calls to be very necessary and useful for group building and maintenance purposes. As one member suggested, it simply felt too long not to talk to each other and hear the voices in between the January and November face-to-face meetings.

Stage two—shifting identity and new members as boundary spanners. As Putnam and Stohl (1994) indicated, new members could be considered boundary spanners in that they are socialized into existing norms and at the same time, have the potential to bring in new practices and norms. Within the Educational Committee, with two members withdrawing and three new members joining the group in September 2004, the committee experienced significant membership change. The membership change occurred in the middle of the study provided me with an valuable opportunity to observe how patterns and norms changed within the Educational Committee, as a result of which a shifting identity evolved and group boundaries were redrawn.

First, although the team leader consistently stressed her vision of changing the committee from being reactive to proactive, it took her two years to make sense of the missions and goals of the committee. As she explained, she had a clearer sense of what the committee was supposed to do during her third year (2005) on her job as the Director of the committee. Consequently, she purposefully fastened the pace of interaction within

the committee since she had more ideas and thoughts to share and discuss with the members.

Secondly, with three new members joining the committee, there were also changes in characteristics of member composition. After the membership change, most of the group members reported long-term prior relationships with some of the members on the committee. For example, one member suggested, she had known some of the members on the committee for so long that collaboration within this committee seemed to be another task they worked together on. The new members were also more active and involved in the projects they worked on, possessed more extroverted personalities, and exhibited more active communication behaviors in interacting within the committee. In addition, the group reported that power was more equally distributed among all members of the committee. The team leader explained the changes in power distribution as follows:

The power imbalance has changed with XXX (a member from a community college) joining the committee. She provides the committee with wonderful breadth and depth of knowledge. The committee is a lot more on equal footing now.”

Consequently, although the Chair of the committee had been stressing her goal to move the committee from being reactive to being proactive for a long time, a clearer notion of the committee’s mission and having more active members finally enabled her to claim a different identity for the committee.

Due to changes in group context, the Educational Committee displayed different patterns of media use both in terms of frequency of interaction and in terms of how

multiple media were combined. In addition, new norms evolved within the committee through the communication behaviors of the newly joined members. Those newly emerged patterns and norms suggested that the group identity were evolving and that group boundaries were redefined.

First, the Educational Committee evidently became more active in interaction in that both email exchanges and phone meetings via conference calls became more frequent. As suggested earlier, the group tended to rely on email as the primary interaction tool and used conference calls two or three times a year (there were two calls reported during 2004). Nevertheless, the frequency of conference calls within the committee seemed to be more in accordance with that of other committees after the membership change, that is, once every four to six weeks. In addition, there were subgroup phone calls among subcommittees or among part of the group. For instance, the leader did a “socialization” call with the new members in January 2005. The frequency of email interactions increased as well. The members reported that email interactions happened in clusters and the clusters of emails seemed, in average, to happen very two weeks or so, as opposed to “at least four times within a semester” reported before the membership change.

There were not only changes in frequency, but also changes in how the committee combined the use of email and conference calls. In the past, email was primarily relied upon for task purposes and conference call were used sparsely and mainly for group maintenance purposes. After the membership change, however,

different patterns of combining the two media emerged. The members of the team reported that email was used as preparation for the calls. The following excerpts from the interviews with the newly joined team members suggest how new patterns of combination of media emerged after the membership change:

The committee uses email as a precursor for the conference calls. We use emails to prepare for the calls.

Email is great since it allows me to address issues quickly. Then it's nice to be able to talk. Email can prepare for the talk and do preliminary work for the talk. I think the combination of both is good.

Consequently, the group used the conference calls for making decisions and to make sure all members were on the same page in understanding its ongoing projects and tasks (a pattern more similar to how the Research Advocacy Committee handled the two media). One member explained the different function of the two media by commenting, "The emails are preparation-focused and the calls are action-focused."

Another change in pattern lied in the increasing tendency to "reply to all" in email interactions, which tended to reinforce group boundaries. Before the membership change, some of the members tended to "reply to all" more often than others.

...I don't recall seeing anything from several of the members. We had two new members last year and I've heard very little from either of them. XXX was one of them and XXX was the other. I don't recall seeing any messages from them going back to XXX (the team leader) so I suspect when they reply, they would reply to her instead of all of us.

After the membership change, however, all of the team members paid attention to reply to all when the messages were relevant to all. One member recalled receiving about an equal amount of messages from every member on the committee. Another newly

joined member explained how she began to reply to all as a result of her initial observation of others' behaviors as follows:

When XXX (the team leader) sent that first message, introducing me to the group, I replied to her only. I didn't reply to all. Then everybody replied to all. I replied to all in later email interactions."

Each time the members replied to the group as a whole, they reinforced the group boundary since email lists set boundaries and at the same time, group emails created an online forum for internal exchanges that excluded outside members.

In addition, two significant norms emerged within the newly formed group, including taking initiative in interaction and self-disclosure. These newly emerged norms allowed the team to characterize itself differently and therefore redefined the group boundaries and identity. First, in analyzing shifts in patterns of interaction after the membership change, I identified different communication behavior within the group studied, which, when putting together, indicated the emergence of a new norm within the group, that is, the members' expectation for each other to take initiative in interaction. The new norm was reflected in how the members influenced media choice and media use, how quickly they responded to email messages, and how assertive and self-motivated they were in contributing to group discussions in using various media.

Before the membership change, there was the expectations that the team leader managed the interaction process, suggesting what media to use and how, and initiating email interactions. Although one member hoped to use Netmeeting in team interaction, she hesitated to bring it up since it was against the group norm to do so. In the newly

form group, however, the members played a more active role in interactions in electronic context. Although it was still typical for the Director of the committee to initiate a cluster of email interactions, the members occasionally initiated interactions when needed. In addition, they also suggested media choice. For example, once the leader scheduled a conference call. Before the call, however, one member suggested that since most of the items on the agenda were listed for the purpose of information sharing, many could be handled via emails instead of phone meetings. Others echoed his opinion and the team ended up deciding to exchange information via email instead of having a call as planned.

In addition, the members of the new group indicated norms such as prompt reply to email messages and being assertive and self-motivated in interaction. One newly joined member discussed those norms in the following comments:

The Educational Committee members want you to be responsible for your actions. Be assertive. If you have things to say, say it. Participate on your own initiative. Don't wait for others to respond. Be self-motivated. The group does not tolerate a passive member.

As the boundary spanners, the newly joined members contributed to the emergence of the norm of "taking initiative." As the leader indicated, the newly joined members "brought alone people who were lagging behind."

Another new norm emerged after the membership change was the norm of self-disclosure, which was develop as a result of the existence of long term prior relationship among the members on the committee. Since the members knew each other so well and collaborated in different contexts, the group faced the issue of developing a group-specific norm and identity. Consequently, the newly formed group took the friendliness

and supportive norm a step further and a norm of highly intimate self-disclosure evolved in team interaction. Since long term prior relationship was common among the members of the committee, the members had known each other and had been supportive of each other in their professional lives for years. Therefore, a sense of support was already there before they joined the group. Nevertheless, maintaining a professional relationship did not involve self-disclosures, which only happened within The Educational Committee. Field observations suggested the group was surprisingly honest and open in discussing their difficulties and the changes they were experiencing in their personal lives, such as sexual orientations, weight loss plans, promotion opportunities, etc.

To summarize, different group contexts and characteristics of the member composition contributed to the evolving patterns of media use within the Educational Committee as well as norm development and changes. The members' communication behaviors, perception and habitual patterns of media use clearly influenced how those patterns and norms evolved. Through developing those group-specific patterns and norms, the committee constituted into a cohesive group, differentiated itself from others, and gave voice to its identity. In addition, through shifts in the patterned communication practices, the committee saw its identity evolving and its boundaries being redefined.

Discussion

In this study, a central theme that threaded the discussions together was how bona fide virtual groups constitute themselves and define and redefine group boundaries in

both internal and external communication. In consistency with the bona fide perspective (Putnam & Stohl, 1990, 1996; Stohl & Putnam, 1994, 2003), this case study found group boundaries to be fluid, blurred, and constantly structured and negotiated in communication. The committee studied experienced a great deal of uncertainty with regard to its mission as well as boundaries between itself and various other groups that it shared overlapping responsibilities with. In addition, it experienced various tensions in relating to members outside the group due to concerns about defining and preserving group boundaries, involving outside members and excluding them at the same time, and reinforcing and blurring group boundaries simultaneously. Finally, as a virtual group, the group faced the challenge of constituting the group and developing a sense of “groupness.”

Consequently, the study found various communication practices that facilitated the group in drawing, redrawing, and maintaining its boundaries. First, internally, group identity developed and evolved as the members developed group-specific patterns and norms of media use. Consistent norms such as numbering all projects and keeping a *Project Summary* and high level of group maintenance in electronically-mediated interaction defined the group boundaries and differentiated it from other groups in the organization as well as other groups that the members belonged to. In addition, from a structural perspective, I found those patterns and norms evolved as a result of changes in group context and individual members’ habitual patterns of media use, particularly, those of the newly joined members. Those shifting patterns and norms of

interaction caused group identity shift and redefinition of the group boundaries. Before the membership change, the predominant reliance on electronic mail characterized the committee and differentiated it from other committees. After the change, the newer members served the function of boundary spanners and brought into the committee new norms through how they used multiple media to interact, including a norm of taking initiative in interaction and a norm of intimate self-disclosure. Both the new norms and the shift in patterns of media use gave voice to the shifting identity of the group. Specifically, the increased frequency of communication and the norm of taking initiative suggested the committee was evolving into a more proactive group.

While those patterned communication practices within the group certainly revealed the shifting “personality” of the group and constantly structured its boundary internally, group boundaries were also constantly negotiated, preserved, and shifted through external communication. The study identified several means that the group used to manage its boundaries and the dialectical tensions mentioned previously. First, an evolving mission statement allowed the group to make sense of its mission internally and at the same time, preserved its boundaries in external communication. Specifically, with clear and consistent goals, the group was eventually able to say “no” to projects that did not fit and therefore, resisted to be a “dumping ground” for “homeless” projects. In addition, the group also managed the tension of including and excluding external members within the organization at the same time through patterns of media use. Given the ambiguous boundary between the group and a staff member that the group interacted

regularly with, the group included her in most email interactions and excluded her in conference calls, which limited her participation in and impact on internal processes. Moreover, intercommittee interactions provided an opportunity for the committee to express its identity and to reinforce and blur group boundaries simultaneously. The committee studied expressed its unique identity through how they interacted internally and indicated its shifting identity through claiming itself to be the best group to other committees. The friendly and joking exchanges with another committee also served the function of blurring group boundaries since it expressed the members' anticipation for intercommittee collaboration and the strengthening of ties between groups.

To summarize, the study suggested that both internal and external communication practices facilitated boundary management and allowed the evolution of a group identity. In managing internal process and external tensions, the group studied obtained a clearer notion of its own boundaries as well as how it related to members and groups outside it. In terms of implications, the study suggested that group boundaries of bona fide groups are constantly structured and negotiated in communication. Likewise, virtual group identities shifted as patterns and norms of media use changed.

CHAPTER VIII

CASE COMPARISON

In this study comprised of multiple case studies, I highlighted the importance of boundary issues and identity concerns in understanding how bona fide virtual groups operate. The study explored how recurring patterns of internal and external interaction defined and redefined, preserved, and blurred group boundaries. In addition, the study investigated how a group identity and a sense of “groupness” evolved in bona fide virtual groups through interactions with members both inside and outside the groups. The analysis of the case studies focused particularly on how appropriation of communication technology impacted and facilitated boundary management and identity formation. In this final chapter, I attempt to synthesize the findings from all four case studies by comparing and contrasting those cases and suggesting overall implications for studies of bona fide virtual groups.

At the outset, the study provided additional support for the bona fide perspective in small group studies, including virtual groups. All four groups manifested characteristics of bona fide virtual groups in terms of stable yet permeable boundaries and interdependence with immediate contexts, although the group boundaries were made permeable in both similar and different ways for the four cases. Consequently, all groups studied faced the dialectical tension caused by the simultaneous needs to have flexible and permeable boundaries and to maintain group boundaries in order to keep a relatively

stable group identity. How these groups reacted to that dialectical tension in interaction thus became a major question guiding the case studies. I will summarize the overall findings in this chapter.

In addition, through moving back and forth between internal and external group processes (Stohl & Putnam, 1994), the study illuminated how virtual groups socially constructed, defined and redefined their boundaries through recurring patterns of interaction. External interactions provided opportunities for the groups to define and redefine their identity and stabilize their boundaries (Stohl & Putnam, 1994), since they allowed the groups to make sense of the external environment and to recognize differences from other overlapping groups. With regard to internal interaction and boundary construction, the study found that both the formation of unique patterns of media use through members' behaviors and influences and the emergence and negotiation of group norms regulating the members' interaction behaviors in electronic context contributed to the development of a sense of "groupness" and gave voice to a group identity or "personality". In other words, through developing patterns and norms of media use, the groups constituted themselves and meanwhile, separated themselves from other interlocking groups. A sense of "groupness" was also created and maintained through creating a sense of interdependence in internal team interaction and through relational exchanges manifested in both face-to-face and electronically-mediated interactions.

The Bona Fide Virtual Groups Studied

At the outset, the study was informed by the bona fide perspective (Putnam & Stohl, 1990, 1996; Stohl & Putnam, 1994, 2003), since it allowed me to situate the groups in their contexts and to develop a more complex and dynamic understanding of the internal group processes.

All four virtual teams studied evidently manifested characteristics of bona fide groups, namely, permeable and fluctuating boundaries, and a recursive relationship between the internal group processes and the intergroup systems or environment. All virtual groups studied had multiple external linkages, which were illustrated by the close ties between the Global Research Team (discussed in Case A) and its internal and external clients as well as other members in the organization, the interlocking relationship between the SWAT team (discussed in Case B) and other groups in the organization who were indirectly impacted by the internal activities of the SWAT team, and the staff team and other committees with whom the two CRS committees (discussed in Cases C& D) shared overlapping roles. Thus, the internal activities of the groups were inextricably linked to the intergroup systems they were embedded in, since they influenced and were influenced by the systems surrounding these groups. For example, the clients' perception of research as strategically important impacted how the Global Research Team perceived itself as being important to the strategic goals of the organization. The activities of the SWAT team fostered customer feedback and

complaints, which were fed back into the organizational system and subsequently, constrained the internal activities of the SWAT team. In addition, the boundaries of the two committees discussed in Case C & D were defined in relation to the boundaries of other interlocking groups in the organization.

In addition, all groups studied were also embedded in an external environment, with which the groups had a recursive relationship. For example, in the case of the SWAT team, constant interaction with the uncertain external environment significantly impacted the internal group processes in terms of definition and redefinition of collective goals and in terms of how the interaction process was structured. Additionally, internal group activities within the SWAT team were constrained by changes in the organizational culture and at the same time, specific patterns of media use within the group influenced the changes in the larger cultural environment in the organization. Similarly, industrial norms in the Public Relations industry influenced how communication technologies were used within the Global Research Team (discussed in Case A), which, as a result, reinforced existing norms.

In terms of permeability, all groups studied had fluctuating and permeable boundaries as a result of multiple memberships, turnover, or membership rotation. Consequently, the groups either transferred of norms and roles from other contexts or introduced new norms and practices as a result of membership changes, which sometimes caused shift in the group identity. For instance, the Educational Committee (discussed in Case D) experienced a shift in group identity as a result of membership

change and significant changes in interaction patterns and norms. In addition, transference of roles and norms from other contexts to the group context occurred in both the case of the Global Research Team and within The Research Advocacy Committee at CRS.

In short, the above discussion highlighted the external linkages of the groups, as well as the permeability of the group boundaries. The discussion suggested the significance of using a bona fide perspective to understand how these groups operated. Reconceptualizing these groups as bona fide groups provided the study with a focus that was ignored or not fully attended to in most existing virtual group studies. The findings of the study are discussed in the remaining sections of the chapter, which focused on how the bona fide groups socially constructed group boundaries and developed group identities through internal and external interactions as well as how, in interacting with external groups and members, the groups studied experienced and managed tensions caused by the permeability and blurring of group boundaries.

Socially Constructing Boundaries in External Interactions

The study found that both internal and external interactions facilitated the definition and redefinition of group boundaries as well as the social construction of group identities. This section focuses on how the groups defined and redefined group boundaries in external interactions and how they developed a sense of group identity through interactions with members external to the groups.

First, a key dynamic in group identity is the identity that the interrelated groups project on a group. The perceptions and reactions from the interacting groups provide a looking glass for a group to see itself in. Consequently, in this study, the groups studied made sense of their group identities and boundaries through comparing their self conceptions with others' perceptions and reactions. For example, the Global Research Team's viewed its tasks as being strategically important to the organization due to the fact that its clients ranked research as the second or third important factor in evaluating and differentiating PR firms. Similarly, the two committees discussed in Cases C and D, respectively, made sense of their identities and boundaries through interactions with other interrelated groups. For example, the Research Advocacy Committee's sense of group identity was solidified when others rated the group as the "most effective committee" and coupled it with its self-developed mission. In addition, both committees made sense of group boundaries through going to various organizational meetings and observing how the groups' missions were interpreted and how certain tasks but not others were assigned to a given group. Thus, external perceptions and reactions reinforced and solidified self conception when they were consistent. Interestingly, in the case of the Educational Committee, the identity prescribed by others, namely, "the weakest committee" and the boundaries defined by others, namely, a dumping ground, did not fit with the group's self conception, which as a result, led to struggles with reclaiming a group identity and redefining group boundaries. Through rejecting projects that did not fit its mission and labeling itself as the best group and communicating that to

other groups, the committee redefined its group boundaries and reclaimed its group identity in external interactions.

Secondly, some of the groups, in particular, the two committees in the academic organization, CRS, made sense of their group boundaries through negotiation of task jurisdiction and coordinated actions among groups. Since boundaries among the interrelated and overlapping groups within the organization were fluid and vaguely defined, each group faced the challenge of differentiating itself from others and thus claiming a distinctive group identity. As a result, the two committees studied made sense of their group boundaries externally through coordination of actions with others and through negotiation of projects under each committee's purview. First, collaboration redefined group boundaries. For example, through collaborating with the Research Advocacy Committee, the Educational Committee started to make outreach a focus of its internal group process. In addition, boundary definition and redefinition occurred through constantly ongoing negotiation of jurisdiction among the interlocking groups. For instance, when the Educational Committee rejected task assignments that did not fit its mission, the group boundaries were reinforced and communicated to others. Similarly, through consulting with the Leadership Group on tasks that the committee undertook previously but no longer perceived to be under its purview, the Research Advocacy Committee attempted to redefine its group boundaries.

Thirdly, in the case of the SWAT team discussed in Case B, group boundaries were defined and redefined through continuously ongoing interactions with the

environment and the interlocking groups inside and outside the organization. Specifically, the group made sense of its boundaries through understanding the time constraints and the changes in the legal environment, and through learning about the reactions to its internal activities by external vendors, the organization's customers, related groups in the organization, including the Public Relations groups, the Escalation group, and the IT group whose projects were closely related to the project of the SWAT team. Through interactions with their external environment and all the above-mentioned constituencies, the SWAT team socially constructed its group boundaries, which constantly evolved throughout the life of the group.

Socially Constructing Boundaries in Internal Interactions

The study also suggested various ways that bona fide virtual groups socially constructed group boundaries and developed a sense of "groupness" in the process of internal interaction, including developing group specific interaction patterns and group norms of interaction, creating a sense of interdependence in interaction, relying on relational exchanges for team building purpose, internal sense-making regarding the group's mission and goals, and keeping and knowing a group history. This section discusses in detail how each of these aspects contributed to group boundary construction and group identity formation within the four groups.

First, given the predominance of communication technology in the process of virtual teaming, a significant way for virtual groups to differentiate themselves from

others is through appropriating communication technology to group contexts and developing group specific patterns of team interaction. As Adaptive Structuration Theory (DeSanctis & Poole, 1994) predicted, patterns of technology appropriation tend to vary from group to group as a result of the simultaneous influence of multiple contextual factors as well as the members' active communication behaviors. Empirical studies also suggested that virtual groups developed group specific manners of media use (Huysman et al., 2003). Therefore, patterns of technology appropriation constitute virtual groups and give voice to the unique identity of each group.

Each of the virtual teams included in this study had multiple media available for team interaction, but different patterns emerged and evolved within those groups. Patterns that emerged in the Global Research Team (Case A) included a preference for phone rather than electronic mail, increasing reliance on Instant Messenger instead of electronic mail, and group-specific ways of appropriating the team eRoom. These patterns suggested as a group, the Global Research Team stressed interactivity, convenience and utility, and avoidance of confusion in using multiple media to interact. The SWAT team discussed in Case B, on the other hand, relied significantly on conference call and electronic mail for team interaction. The team's interaction process was characterized by a preference for email and the combination of multiple media in team interaction. As a result, the SWAT team stressed the need for documentation, complementary use of media, and repetitive communication in adapting multiple media to the group context. Although embedded in the same organizational settings, the two

committees discussed in Cases C and D, respectively, also exhibited different patterns of technology adaptation. Specifically, the Research Advocacy Committee stressed efficiency in team interaction and as a result, differentiated electronic mail and conference call in terms of their functionality. Email was used more often among subgroups, for informational purposes, and coordination of specific tasks. In contrast, the monthly conference calls were used for entire team interaction, primarily for functional purposes, and for bigger agenda setting. Unlike the Research Advocacy Committee, before its membership change, the Educational Committee relied primarily on email and used the conference calls mainly for boosting team morale. After its membership change, the team interaction became more centered around the regular meetings via conference calls. Among other things, features of membership composition significantly impacted patterns of media use within the Educational Committee.

These patterns of media use defined boundaries for virtual groups in that they differentiated a given group from other virtual groups in terms of how the interaction process was structured. In addition, these patterns gave voice to a group identity because they suggested differences in meaning systems within each group in terms of what was stressed and valued in technology appropriation and what was less significant for a particular group. For example, “leveling the playing field” and equal participation in decision-making was a significant concern in the Educational Committee’s choice of electronic mail as the primary media used in team interaction before the membership change. In contrast, “efficiency” was more emphasized in adaptation of media use within

the Research Advocacy Committee. Similarly, “mutual understanding” was significant for the Global Research Team and as a result, the interactivity provided by telephone was emphasized in communicating ambiguous or complex messages. Lastly, embedded in its organizational context, the SWAT team valued documentation through use of electronic mail. Thus, patterns of media use and media combination partly indicated a group’s identity.

In addition to patterns of media use, group norms of interaction were also used as a means of constituting virtual groups and defining group boundaries. Shared group norms that evolved within each group expressed the central values of each group and allowed the groups to differentiate in-group members from out-group members. Through sharing group specific norms with other members in the same group, a member linked himself/herself to the group and distanced himself/herself from other groups. For example, the interaction behaviors of the members of the Global Research Team discussed in Case A were guided by norms such as “business needs come first,” engaging in relational interactions, and informal information sharing. The SWAT team discussed in Case B shared the norm of task focus and norms of interactivity and effectiveness in conference calls. The Research Advocacy Committee negotiated norms of email use, such as cutting back thanks notes and changing subject lines, as well as norms of conference calls, such as efficiency and norms that apply to departmental meetings in university settings. Lastly, the members of the Educational Committee were bound together and separated from other committees in the same organization through a

norm of “high level of group maintenance.” Since the set of norms evolved within each group tended to be group-specific, together they helped to set boundaries for the virtual group.

In addition to developing patterns of media use and group norms of interaction, the study also identified other means through which the virtual groups studied developed and maintained a sense of “groupness,” including creating a sense of interdependence in interaction, using relational communication for group-building purposes, and maintaining a group history. In terms of interdependence, the study found that emphasis on the mission and collective goals and on teamwide information sharing created a sense of “groupness.” For example, a significant tactic that the leader of the Global Research Team used to facilitate group building was repetitive communication of shared goals and how each member was contributing to those goals. He did that through multiple channels of interaction, including the monthly newsletter, the regular conference calls, and the annual face-to-face meetings. In addition, the Global Research Team relied on regular interactions and multiple channels to facilitate information sharing across the team, including the regular staff meeting via conference call and the team eRoom. The constant flow of information reminded the members of their interdependence on each other within the team. Similarly, in the case of the Research Advocacy Committee discussed in Case C, the annual face-to-face meetings and regular team business meetings via conference call brought the group together, in which strategic goals were discussed, reviewed, and regenerated, and information sharing across subcommittees occurred. In addition, a sense

of interdependence and hence, a sense of “groupness” was also maintained in interaction through keeping a team email list and through relying to all members for teamwide information sharing, which was observed in all four teams.

Relational exchange was another way for virtual groups to develop a sense of “groupness.” Three of the four groups studied (with the exception of the SWAT team) stressed relational information for purpose of group building. For example, the Educational Committee created a sense of “groupness” through high levels of group maintenance, the intensity of which separated the group from all other groups that its members belonged to in the present or past. In addition, after the membership change, most the members on the committee had multiple memberships in various associations and had known each other for years. Consequently, intimate self-disclosure allowed the members to set a boundary for the committee and developed a sense of “groupness” within the committee. In the case of the Global Research Team, periodic phone calls for relational communication as well as stopping by everyone’s office during onsite visits constantly reminded the members of their membership in the same group.

Moreover, similar to boundary definition through sense-making regarding the mission and goals in external interactions, some of the groups also attempted to understand and define group boundaries through internal sense-making activities. The Educational Committee discussed in Case D provided an appropriate example of this. The group experienced ambiguity in understanding who they were and where they fit in the organization. Consequently, the group socially constructed its group identity and

group boundaries not only through external interaction, but also through constantly ongoing internal discussions. These ongoing sense-making experiences within the committee facilitated the definition and redefinition of group boundaries.

Lastly, the case studies indicated that keeping and knowing a group history facilitated the formation of a group identity. All four groups developed certain ways to record its history and to communicate to the members. For instance, the Global Research Team (discussed in Case A) used the team eRoom as an archive to store project history, which not only facilitated the management of fluctuating group boundaries caused by frequent turnovers, but also maintained a sense of group identity through recording the past accomplishments of the group. Similarly, the SWAT team (discussed in Case B) used a common project folder that the members shared online to management frequent membership change and maintain a sense of continuity. In the case of the Research Advocacy Committee (discussed in Case C), the history of the group was reflected in its ongoing project and referencing to the group's past gave the members a sense of pride. Finally, the Educational Committee made sense of its group identity through keeping a *Project Summary*, which summarized all projects that the group worked on in the past and present and gave the members a sense of how they, as a group, were contributing to the organization.

In summary, this section discussed a variety of tactics that the members of the virtual groups used to socially construct group boundaries and to create and maintain a sense of "groupness." Both recurring patterns of media use and group norms of

interaction constituted virtual groups. When patterns became group specific, they allowed boundary setting and expressed the distinctive identity of each group studied. In addition, sharing norms allowed a group to identify its members and allowed the members to link themselves to a particular group. A sense of “groupness” was created and maintained in interaction through creating interdependence among the members in communication and through relation interactions that glued the members together. Specifically, interdependence was created and maintained through repetitive emphasis on collective goals and the constant flow of information within a group through team wide meetings and “replying to all” in email interactions. In addition, internal sense-making activities toward a clearer notion of group mission and goals facilitated boundary construction and identity formation. Finally, recording and sharing group history facilitated identity formation in all groups.

Managing the Dialectical Tension

One important conclusion drawn from the multiple case studies was that bona fide virtual groups experienced tension in internal and external interactions. On the one hand, these groups were embedded in their intergroup systems and environments. Interactions with interrelated other groups brought benefits to these groups. On the other hand, bona fide virtual groups needed to preserve its boundaries through recurring patterns of communication, which stressed the differences between a given group and other interrelated groups. This section discusses both the benefits of maintaining blurring

boundaries as well as the boundary preserving measures taken by the groups to differentiate membership inside and outside the group.

In terms of the benefits, the study indicated that keeping group boundaries permeable facilitated sense-making of group boundaries as well as management of internal processes. As discussed earlier, intergroup communication and other types of external interactions allowed the groups to make sense of their boundaries and develop a distinctive identity. For example, both committees at CRS engaged in sense-making experiences to understand their missions and collective goals. Part of the sense-making was done through interactions with other interrelated groups. Likewise, the SWAT team had to constantly define its group boundaries through making sense of the external environment. In addition, interactions with external environment or external group facilitated management of internal processes. For instance, intergroup communication enabled the Research Advocacy Committee to develop a *Procedure Manual*, which was very conducive to managing internal processes.

In addition, the permeability of group boundaries also allowed the groups to quickly and conveniently gather information from the surrounding environment among groups and in the larger organizations, which, in turn, enhanced group effectiveness. For example, organizational knowledge sharing and collaboration allowed the Global Research Team to take advantages of potential sources not only within the group, but also from other members in the same organization. In addition, frequent interactions with the account teams brought the group more business opportunities. Similarly,

collaboration between the Research Advocacy Committee and the Educational Committee in CRS allowed both groups to borrow ideas from each other and to enhance each group's capabilities through joint efforts.

Moreover, membership fluctuations facilitated the emergence of new norms and communication practices and under some circumstances, shifts in group identities. As some members left and others joined, some of the groups studied were able to redefine their group identities (e.g., the Educational Committee discussed in Case D; the Global Research Team discussed in Case A) or adapt their processes of team interaction through evolving patterns and norms of interaction.

Furthermore, the case of the SWAT team suggested that group boundaries were purposefully blurred for control of the team members. Through copying meeting minutes to the senior management of the organization, the group ensured that individual commitments were met after the conference calls. Therefore, when used to its own benefit, the permeability of group boundaries could be conducive to task completion.

Lastly, boundary spanners oftentimes become sources of group norms, as they transfer norms from other contexts to a given group context. That is particularly important for virtual groups, as previous studies suggested virtual groups lacked interaction norms and emergence of norms guiding the interaction process were crucial for the effective use of multiple media. As the case studies suggested, multiple memberships and the close ties among the interacting groups provided sources of norms for the bona fide virtual groups studied. Through transferring and adapting norms from

other contexts, the groups made their interaction process more predictable. For example, in both Cases A and C, the groups appropriated norms from outside the group and brought them into the structuring processes inside the groups, which is termed a combination move in Adaptive Structuration Theory (Poole & DeSanctis, 1992). Specifically, professional identification with the PR industry provided interaction norms for the Global Research Team. Organizational affiliations with universities enabled the members of the Research Advocacy Committee to appropriate the norms of departmental meetings in team interaction and adapted these norms to organizational and group context.

While permeability brought a number of benefits to bona fide virtual groups, it also became a challenge to these groups in terms of managing group boundaries and maintaining group identities. Consequently, the study investigated how the groups studied reacted to the simultaneously and seeming contradictory needs of maintaining and blurring group boundaries through patterns of media use that included and excluded the external groups and members at the same time.

First, some of the groups studied, specifically, the two committees at CRS safeguarded group boundaries through developing a mission statement. Given the fluidity of group boundaries among the multiple CRS groups, both committees were able to say “no” to projects assigned by the governing units through having a consistent mission. As the case of the Educational Committee suggested, without a clear mission, it was likely that the group would become a “dumping ground” for whatever projects the

executives thought the group should do.

More importantly, group boundaries were preserved through specific tactics of media use. In Case A, though contact with the account teams blurred the group boundaries of the Global Research Team, the fact that the group had different patterns of media use with the account teams and within the Global Research Team helped to manage the team's identity in the face of blurring. Boundaries of the SWAT team were maintained in part by giving information to the senior management of interlocking groups so that they would not feel the need to intervene and become part of the group. In Case C, the Research Advocacy Committee preserved group boundaries through keeping two separate email lists, using the Chair as a boundary spanner to filter external messages, and keeping group conference calls strictly internal. A similar boundary-preserving measure was used by the Educational Committee, namely, excluding external members from active participation in the team interaction process through including them in the group email list but excluding them from the conference calls. Through these patterns of media use, the group studied differentiated in-group members from out-group members and thus, maintained a sense of groupness.

Lastly, intergroup communication provided an opportunity for reinforcing group identity and blurring group boundaries simultaneously. The episode of relational exchange between the two committees at CRS illustrated that point. Through jokingly competing to be the best group, the two groups reframed their relationship as both competing and collaborative. They competed to be the most active group that provided

the best quality service to the members of the organization. At the same time, the friendship between the two Chairs of the committees allowed the members to anticipate more collaborative work between committees. As a result, there was increasing friendliness between the two committees. Thus, group boundaries were both reinforced and blurred through that episode of relational exchange.

Summary

Through comparison of the multiple cases included in this study, the chapter highlighted the common themes and findings among the cases. The study not only illuminated the boundary and identity problems posed by the bona fide group theory, but also provided partial explanations about how those problems were dealt with in communication. Given all groups studied were virtual groups, the study in particular suggested how patterns of technology appropriation facilitated boundary management and contributed to identity formation. As a result, the study suggested how the structuration theory could be used to explain how virtual groups deal with boundary and identity issues posed by the bona fide group perspective. The theoretical implications of the study will be discussed in the final chapter.

CHAPTER IX

THEORETICAL IMPLICATIONS AND CONCLUSION

In this chapter, I discuss the theoretical implications of this multiple case study as well as the strength and limitations of the study. The study raised several questions about understanding boundary conditions and the process of boundary management in bona fide groups, in particular, virtual groups. In addition, the study also indicates some key elements to understanding how bona fide groups operate as well as the linkages between structuration theory and the bona fide group perspective in small group studies.

At the outset, the study raised the question of boundary conditions for bona fide virtual groups. What defines the boundaries of a virtual group? Or, how should we define group boundaries? According to Putnam and Stohl (1990), boundaries connote “membership in or out of the group and serve as preconditions of group identity” (Putnam & Stohl, 1990). In this study, I took the position that boundaries are not fixed, but are constantly structured and continuously maintained in communication. But, the question follows, what constitute the boundary conditions of a bona fide group?

First, the study suggested that a collective or common goal sets boundaries. A group needs to identify a common goal, which normally separates the group out from its surrounding environment and allows the group to claim a unique identity. Three of the four groups included in this study struggled to forge a clear notion of their collective goal. As a result, boundary construction and sense-making of group goals occurred

concurrently. Through internal and external interactions, the groups progressively clarified their common goals. As a result, group boundaries were constructed. In addition, the study further suggested that a consistent group goal not only allowed a group to set its boundaries, but also facilitated boundary maintenance in communication. For example, one of the groups developed a mission statement which allowed it to reject projects that did not fit its defined mission.

Secondly, the study confirmed what was previously discussed in the literature about how groups constructed boundaries and suggested that among other factors, a sense of interdependence developed in communication seemed to be important. As Putnam and Stohl (1996) pointed out, bona fide groups organize on the basis of relative interdependence, which were demonstrated in internal and external interactions. In addition, Marby (1999) argued, "In systems language the integrity of a system (group) is the boundary formed by the way(s) system components(people) are interrelated" (p. 73). In this study, empirical evidence indicated how bona fide groups developed a sense of "groupness" through creating a sense of interdependence in interaction. For example, one of the groups used repetitive communication of collective goals through multiple channels as a means of group building. The leader further explained how each member was contributing to the group's common goals, which reinforced their group identity. In addition, the groups used regular business meetings via conference call as well as annual face-to-face meetings (with the exception of one group) as valuable opportunities for developing a sense of interrelatedness among the team members, since the groups used

those meetings for discussing group processes and for information sharing and joint decision making. Ongoing negotiations about the common purpose, the strategic plan, as well as the administrative issues within a group such as budget management and selection of future members constantly reminded the members of their interdependence. In addition, both the process of sharing of social, contextual, and task-related information (Cramton & Orvis, 2003) and the process of joint decision-making further contributed to the sense of “groupness” through indicating how the members shared responsibilities and were bounded by a common purpose. Thus, regular meetings became a ritual that brought the group together. As a result, group boundaries were constructed and the differentiation between ingroup and outgroup members became clearer.

In terms of boundary conditions, the study further indicated that the virtual groups developed group specific patterns and norms of interaction as an important means to set group boundaries. Postmes et al. (2000) called those patterns and norms “consistencies in interaction” and the authors indicated the close connection between those consistencies and a group identity. Constrained by multiply interacting contextual factors and enabled by the active communication behaviors of their members, the virtual groups studied developed group-specific consistencies in interactions as reflected in patterns and norms of media use that emerged over time. Those consistencies suggested the central values of each group respectively and thus gave the group a distinctive identity, which set boundaries for the group. In the meanwhile, they set boundaries for virtual groups also in the sense that those consistencies tend to constrain the members’

communication behaviors within a group instead of influencing their interaction behaviors outside a group (Postmes et al., 2000).

Clearly the above mentioned boundary conditions not only set boundaries for the groups, but also became sources of group identity. In other words, as the groups searched for common goals and consistent communication practices that expressed their central values, a sense of group identity evolved. For example, the group identity literature suggest, an important source of group identity is common fate (Brewer & Kramer, 1986; Chen, 1996), interdependence created by shared outcome. Additionally, Henry, Arrow, and Carini (1999) indicated behavior interdependence as a source of group identity. In this study, the groups negotiated patterns and norms of interaction and maintained constant flow of information within each group, which created behavior interdependence among the members and in turn, became sources of group identity.

Other sources of group identity suggested by this multiple case study included the identity prescribed by others and the history of the group. In particular, Case C suggested that how a group's self conception was reinforced by others' perception of it that were consistent with its self conception. Case A indicated how the client's perception of a team impacted how the members described their tasks as being strategically important. In addition, Case C indicated how the members made sense of the collective identity of the group through referencing the history of the group. Through the use of the team eRoom, the Global Research Team (discussed in Case A) also used history to give itself identity. Since it had this repository that new members could read to learn about the group and

that current members could consult, the members might think it must be a coherent, substantial group.

Holding a social constructionist view, the study indicated that boundaries of bona fide groups needed to be constantly maintained in communication, could be redefined through the influence of both internal and external forces, and that identities evolved over time. As the groups repetitively stressed its common goal, enforced group norms of interaction, and rejected the participation of external groups/members in their internal processes, group boundaries were maintained in interaction. In the meanwhile, interactions with the external environment allowed some of the groups to redefine their boundaries. For examples, the project group discussed in Case B had to renegotiate its goal as a result of changes in the legal environment. In both Cases C and D, I discussed how interactions with other interlocking groups in the organization facilitated sense-making of the boundaries of the two committees. In particular, one of the committees (discussed in Case D) redefined its boundaries as a result of the announcement of the strategic plan by the organization, which detailed the scope of responsibilities of its five committees. In addition, interactions with another committee influenced the group's reinterpretation of its responsibilities. More importantly, the committee's identity shifted as a result of membership change and the influence of its leader.

More importantly, the study suggested certain key elements to understanding boundary management in bona fide groups. In particular, the study found that the notion of challenge to identity and groupness of blurring boundaries and permeability and how

the group responds to that is key to structuration and to understanding how bona fide groups operate. From a dialectical view, the study stressed the dialectical tension that all the groups experienced in interacting with external groups. As suggested earlier, being interlocked with other groups either from within the same organization or external to the organization, the group boundaries became blurred and permeable. In other words, external influences penetrated into the internal group processes and influenced the dynamics of team interaction. At the same time, the groups struggled with maintaining group boundaries and controlling external influences. As Chapter VIII indicated, all groups relied on certain patterns of media use to preserve their group boundaries and limited the access of external groups and members to the process of team interaction. In addition, some communication episodes like the relational exchange between the two committees discussed in Cases C and D allowed the groups to manage this tension effectively through dealing with both kinds of needs simultaneously. Lastly, virtual groups managed the tension through manipulating the influence of external forces. Specifically, the group in Case B manipulated external influences through allowing the influence of forces that were perceived to be beneficial to its task completion and restricting the influence of forces that were perceived to have the potential to thwart the completion of the common group goal. Future studies could gain more insight into how this dialectical tension was managed in bona fide groups through focusing on specific communication tactics and strategies used in a wide range of groups to preserve group

boundaries. In addition, they may also explore the circumstances under which boundary fide groups purposefully blur group boundaries.

Another theoretical implication of this study is the possible linkage between the two theoretical perspectives used in the study, namely, structuration theory and the bona fide group perspective. Bona fide group perspective provides a realistic picture of groups that frames issues that groups must address (boundaries, membership, etc.) and structuration theory provides an explanation for how they address these things, namely, through structuring themselves in ways that helps to create and maintain identity and boundaries. It focuses on the active role groups have in structuring boundaries. In this study, I suggested how the members' active communication behaviors, particularly, how they appropriated multiple media to the process of team interaction, facilitated identity formation and boundary management. As the groups made sense of and negotiated their missions, developed a set of norms and consistencies of media use, and expressed their consistent or shifting identities in internal and external interactions, they continuously structured themselves and created and redefined group boundaries. Boundary construction and management as well as identity formation occurred through structuration of group processes. Micro-level communicative actions contributed to general group patterns of interaction, which, when repetitively occurred, impacted boundary and identity issues. For example, as the members made a combination move in appropriating media (adapting norms from other contexts to the group context of media use), group boundaries became permeable and blurred. Future studies may further

specify how structuration theory explained how group boundaries were constructed, maintained, redefined, and blurred, all of which were the tenets of the bona fide group theory.

In terms of contributions to the existing literature of virtual groups, the study suggested how virtual group studies can benefit from embracing the bona fide group perspective. First, reconceptualizing virtual groups as bona fide groups gave me a fresh perspective in exploring media structuration within virtual groups. As the study suggested, virtual groups developed recurring patterns and norms of media use, not only for purposes of task completion and relation needs, but also for the simultaneous needs of maintaining and blurring group boundaries and for the formation of group identities. Often, media appropriations were means through which group boundaries and identities were managed. As discussed in the introduction, neither details of media adaptation in virtual groups nor how that relates to boundary management has been extensively studied in the literature. Thus, this study contributed to our understanding of the process of virtual teaming from those specific perspectives. In addition, moving back and forth between internal and external group interaction allows more complicated and situated understandings of the process of virtual teaming, as external linkages inform internal processes and internal processes reflect external influences and feed back into the external environment. Therefore, departing from most existing studies of virtual groups, this study transcended the limitation of using the container metaphor in understanding virtual teaming and suggested how the boundaries and identities, group goals, internal

process such as norms of media use and relation dynamics of virtual teams could be influenced by the external linkages the groups have through multiple memberships and overlapping boundaries with other groups as well as by the surrounding environment.

The study has several strengths. First, although the purpose of selective case study is not for making generalizations, the fact that cases selected included both for profit and nonprofit organization, both ongoing groups with history of interaction and ad hoc project teams, suggested that the common themes identified in the study may be transferable to a variety of similar contexts. Secondly, among the four cases, some relied on the members' recollections and retrospective sense-making, which might highlight the really important things that could not be sorted out during ongoing field observations. I studied other groups as they occurred, which gave me a second view of the processes. Thirdly, two of the case studies were based on longitudinal studies and multiple sources of the data. I not only obtained an in-depth understanding of the group processes including their histories, but also created familiarity with their organizational environment. As a result, I obtained a multi-faced understanding of the group processes from both the insider and the outsider's perspectives. In addition, I frequently test my interpretation against the participants' perspectives as I kept ongoing conversations with the members of the groups during the study. Those advantages gave me greater confidence in my claiming to truthfully represent the groups' experiences.

In terms of the limitations of the study, due to time constraints, the number of case studies conducted was limited to four. Exploration of virtual groups in a variety of

settings could produce more insights. Secondly, lengthy field observations were not permitted in some of the case studies, which negatively impacted the validity of the findings.

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