

A Study on Boundary Management of Team

Shi Guanfeng^{1,2} Lin Zhiyang²

1. School of Economics and Erade, Shihezi University, Shihezi, P.R.China,832000

2.Xiamen University, Xiamen, P.R.China,361005

(E-mail: shigf0109@163.com, zylin@xmu.edu.cn)

Abstract Team boundaries are important issues in organizational theory. This paper analyzes the trend of the boundary activity; defines the concept of inward-facing boundary management and outward-facing boundary management. And then it summarizes competitive and synergic relations between them, and discusses the means of achieving highly-effective team by the dynamic balance between inward-facing and outward-facing boundary management. Finally, the paper explains the further research directions.

Key words Team; Boundary; Inward-facing boundary management; Outward-facing boundary management

1 Introduction

Organizations are often regarded as bounded social entities with clear boundaries in the field of organizational theory, which interact with the external environment to acquire resources critical for their survival. Therefore, the "boundary maintenance" has become a key feature of the organization. But previous scholarship on boundaries has focused primarily on the organization as the unit of analysis; closed-system perspective dominates the research on intraorganizational work units (Ancona, 1990). In the late 1980s, organizational boundary activities have shown an inward-facing trend as organizational change. Currently, the team must work increasingly in non-bureaucratic, boundaryless, networking and electronic mediated organization. The formal structure is collapsing gradually in the profound change; the organizational bureaucratic principles lead to the important issue of how to manage boundary of team in the organizational environment. Therefore, the study on boundary and boundary activities of team is becoming important. This paper analyzes the trend of the boundary activity, clarify connotation of boundary, and define the concept of inward- and outward-facing boundary management by reviewing literature about team boundary. And then it summarizes competitive and synergic relations between intra-boundary and extra-boundary activity, and discusses the means of achieving high-effective team by the dynamic balance between intra- and extra-boundary management.

2 Definition of Boundary

The earliest researchers have proposed views of diversification of concept of boundary (Scott, 1992). The boundary of organization or work unit is defined as organization-environment demarcations, cross-system interfaces, perimeters that protect a system from environmental disruptions, and frontiers where the system acquires resources critical for its survival (Yan & Louis, 1999). Each point of view is associated with a different school of thought or a specific characteristic of boundary. The concept of the boundary is summarized (in Table 1) to establish a comprehensive view of boundary.

The demarcation and the perimeter-maintenance perspectives emphasize the function of boundaries in differentiating a focal system from other systems and protecting it from environmental interferences and disruptions. In contrast, the interface and frontier perspectives stress the interactive relationships and resource exchanges across systems. These more active and dynamic perspectives are especially useful to cross-systems in which interdependencies of these systems are critical (Ancona, 1990).

According to the views of boundary above, we define boundaries as domains of interactions of a system or organization with its environment, in which it engages in conscious activities, in order to provide for its survival and development. First, the integrative views of boundary emphasized the close, isolative and protective function of boundary, for the most important connotation of boundary is to define the difference between the thing and its field, accordingly, boundary highlights properties of the things or fields; Second, it emphasizes the opening, infiltrating and developmental function of boundary, in that boundaries not only contain the meaning of "stopping this", but also "beginning this". In other words, boundary not only defines the difference between things and its field by some kind of property, but also is the basis points of external (internal) expansion of such property (Zhu, 2006).

Table 1 The Diversification of Concept of Boundary

Concept	Definition	Emphasis	Resource
Demarcation	Boundaries are treated as demarcations distinguishing one social entity from another; Boundaries can be regarded as the place in which an organization ends and its environments begin.	Separation is a necessary condition of organizational survival.	Pfeffer & Salancik(1978)
perimeters	This perspective conceptualizes boundaries as perimeters that define the domains of a focal system. Both Thompson (1967) and Friedlander (1987) stress the need for boundary controls and perimeter-maintenance activities to protect the system's conversion process or technical core from the environment interference.	Special attention has been paid to the protective function of boundaries in buffering or closing an entity off from the environment, and treats the world beyond the boundaries as a source of disturbances.	Friedlander(1987) Thompson(1967)
Interface	Boundaries are defined as the meeting grounds where social units come face to face and parties interact. Interfaces provide the means of communication and information flow across work group boundaries.	This perspective focuses on the interdependent relations and cross-boundary transactions between systems, and characterizes cross-boundary relationships among subsystems.	Brown(1983) Thompson(1967)
Frontier	Boundaries are defined as the marketplace in which transactional activities take place.	This perspective focuses on the instrumental transactions across systems and treats the environment as the origin of resources on which the system depends for survival.	Buckley(1967)

3 Inward Facing Trend of Boundary

Work units refer to suborganizational entities composed of multiple individuals performing certain organizational tasks, such as subdivisions, project teams, permanent departments, top or middle management teams, temporary taskforces, or longstanding committees. At present, the organizational boundary have shown three inward-facing trends: boundary activities have migrated from the organizational level to the work unit level, focus of boundary from on the physical boundary to social and psychological boundary, as well as understanding of the importance of the boundary function from peripheral to center gradually.

3.1 Migrations of boundary activities from the organization level to the work unit level

Organizations are analytical basic units or level of open system approach when researchers began to pay attention to boundaries and boundary activities. Boundary-related issues of group remain unexplored. However, boundary activities are migrating from the organizational level to the work unit level because of organizational change. The importance of work unit make the boundary activities more challenging, organizations want the lower-level employees to participate in the construction, and maintenance of team and/or management of the relationship outside organizational boundaries.

Organizational and environmental forces (for example, organizational restructuring/reengineering, increased use of cross-functional teams, increased workforce diversity, organizational slack cutting, and use of sophisticated information technologies) promote the migration of boundary activities. It is no exaggeration to say that the emergence of new forms of organization restores the energy of organization theory, team becoming the key unit of analysis in organizational research.

3.2 Focus of boundary from on the physical boundary to social and psychological boundary

The traditional organizational boundaries, such as a narrow job functions clearly defined, strict management level and geographic restrictions, are being eliminated so that organizations could adapt its environment more flexibly. However, (Gilmore and Hirschhorn 1992) warned that the traditional organizational boundaries will be replaced by psychological boundaries that are forceful equally with them. Staffs usually define their own identity by identification with cross-functional teams. (Hernes 2005) clarified the structure and properties of boundary, and argued that organizational boundary not only consist of the physical boundary, but the social and psychological boundaries. Social boundaries are limitations between the "Diversity" and "identity", and differentiate focal organization from other organizations; this distinction provides a characteristic and behavior norm to people in the organization.

At the same time, social boundaries may require a high degree of trust and people can cooperate with each other without being limited by the physical boundaries. Psychological boundaries describe specific terminology and symbols that help group's exchanges each other, actions and their understanding of specific things. Psychological boundaries involve the mechanism, for example, notion, understanding and belief, which direct organized actions, and form basis for action both inside and outside group boundaries. Therefore, setting and managing of the social and psychological boundaries impact fundamentally on team effectiveness. Adjusting the social and psychological boundaries becomes the challenge to boundary management (Guo & Rui, 2004).

3.3 Understanding of the importance of the boundary function from peripheral to center

Organizations are often regarded as social entities which are limited by a boundary which is stable, clear and an equilibrium state (Hernes, 2004). This idea is actually views the boundary as analytically drawn or incidental to an organization (Goffman, 1961). However, (Giddens 1984) and (Luhmann 1995) don't think so. Organizations emerge because of the participants following a certain notion or tradition, which indicates organization participants have at least a certain special attribute compared with non-participants, which differentiate organization from its environment, and are the basis of organizational boundary. Hence, the boundary setting process of organizations reflects the substance of the organization. Organization evolves through the processes of boundary setting. Thus, boundaries may be seen as intrinsic to organization, not incidental.

According to the analysis above, work units not only have to interact with the environment inside but also outside the organization, the different reactions of team to its environment are the important factors promoting change of boundary.

4 Boundary Management of Team

can be defined from the psychological views (Schein, 1988). Therefore, the most obvious feature of team is cohesion (Ancona, 2003) because a team is a kind of special group. based on (Schein's 1988) psychological definition of the group, (Katzenbach and Smith 1993) differentiate the real teams from the groups which may be called team, and stressed on the importance of collective effectiveness of team. Unlike psychological definition of group and team, (Kozłowski and Bell 2003) stressed on boundary functions of team.

Given that our focus is on work teams and team boundary, we adopt a definition advanced by (Kozłowski and Bell 2003: 334): collectives who exist to perform relevant tasks organizationally, share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity.

Team boundary building enables members to identify with each other psychologically, improve team cohesiveness by mutual attraction and trust, making the team with powerful and potential. Hence the team's key characteristics not only contain common goal, interdependence and cooperation, but also team boundary management. We can conclude that boundary management is the fundamental functions; moreover, team boundary management, cohesion and effectiveness are correlated highly.

According to the analysis above, we argue that the fundamental connotation of boundary is that boundary not only defines the difference between team and its environment by some kind of property, but also is the basis points of external (internal) expansion of such property. Teams survive and develop through boundaries adjusted and reproduced constantly in the processes of teams interacting with its internal and external environment. That is why inward- and outward-facing boundary management is needed.

4.1 Inward-facing boundary management and outward-facing boundary management

The fundamental functions of boundary contain setting, maintaining boundary, identifying key external republic and managing relations between team and external republic. Hence we define boundary activity as "organizational entities engage in the activities of establishing, maintaining boundary and exchanging with its environment." Boundary management is defined as "the process which organizational entities coordinate the activities of establishing, maintaining boundaries, and manage the activities of exchanging with its environment in order to facilitate achieving organizational goals."

Researchers suggest that team process contains two separate sets of activities: internal team processes and boundary-spanning management (Gladstein, 1984), team effectiveness is a function of these factors. (Ancona & Caldwell's 1992a, 1992b) pioneering study defined spanning boundary

management, identified four types of it as ambassador, tasks coordinator, scout and guard activities. Since then researchers related with boundary activities follow this definition. However, we suggest that the term does not reflect the connotation and nature of social and psychological boundary accurately. Boundary-spanning reflect the mean of spanning physical boundary. In fact, social and psychological boundaries of team change correspondingly as the range of team members' activities expand/contract; the activities of the members are still within them. Therefore, according to the meaning of "beginning this", we define team outward-facing boundary activities as the team activities task-related, facing the external environment; outward-facing boundary management is defined as the process and methods identifying key external republic and managing teams which interact with their environments in order to facilitate achieving team goals.

Boundary not only is the basis points of outward-facing, but also inward-facing expansion of team properties. The boundary activities focusing on internal team process, such as creating and maintaining a clear identity and image, can enhance or reduce the boundary. According to the meaning of "stopping this", we define team inward-facing boundary activities as the team activities focusing on internal team factors, setting and maintaining boundary. Therefore, inward-facing boundary management is defined as the process and methods which coordinate the activities of setting, maintaining boundaries, improving members' identification and attention to team in order to facilitate achieving team goals.

(Ancona & Caldwell's 1992a) research shows that the teams engaging in ambassador, tasks coordinator, scout and the combination of these outward-facing strategies are more successful, the teams only focusing guard strategies are rarely successful. (Yan & Louis 1999), (Faraj & Yan(2009) suggest that outward-facing boundary management includes boundary buffering and spanning strategies, inward-facing boundary management includes boundary reinforcement strategies.

4.2 Team boundary management mechanism

Teams can not rely solely on inward-facing boundary management or outward-facing boundary management because teams survive by resources from environment and maintenance of the boundary differentiating teams from its environment. (Yan & Louis 1999) suggest that mutual supportive and complementary relations between inward-facing and outward-facing boundary management. However, the research with inward-perspective argued that internal team processes would help improve team performance. But the research with outward-perspective found that performance is related with boundary-spanning activities significantly, while the relation between internal team processes and performance was not significant. Second, the research with inward-perspective argued that the internal team process would be helpful for group cohesion building while the research with outward-perspective finds that team cohesiveness inhibit external initiatives. Hence there is conflictive relationship mutually between Inward- and outward-facing boundary management.

(Choi2002) proposes that there are two aspects of relationships of between the internal activities and external activities. First, the two activities compete against each other, each seeking more of the limited team resources. Second, internal and external activities may reinforce each other and thus maintain a synergistic relationship. For example, teams deal with other units both within the enterprise and in the larger environment by outward-facing boundary management (e.g. buffering and spanning). In contrast, teams can pull team resources together toward the accomplishment of the team's purposes by inward-forcing boundary management (e.g. reinforcement). Effective buffering may help reinforce boundaries because reducing environmental disturbances may create a more peaceful work climate. The former can not substitute the latter. However, because blocking external interruptions does not necessarily leave the team immune from internal disorder. Boundary reinforcement can not substitute spanning which import needed resources from the external environment. Instead, it can preserves and effectively applies them to complete the task.

Obviously, the dynamic balance between inward-facing and outward-facing boundary management is the key issues in team boundary management. As (Sundstrom et al. 1990) said: "The group boundary needs continual management to ensure that it becomes neither too sharply delineated nor too permeable, so that the team neither becomes isolated nor loses its identity." team effectiveness may be higher when a team allocates its resources in such a way that it strikes a balance between internal and external activities (see point a in Figure 1) than when it pours its resources into one type of activity while neglecting the other (see point b). Managers analyses the level of attraction and initiation, adjusting inward-facing boundary management and outward-facing boundary management to effectively use team resources to achieve the ideal state of boundary management. Hence team boundary management mechanism is that adjusting constantly the degree of stability and dynamic, closure and permeability of the boundary achieves high-effectiveness of team by boundary management. For managers, team

building must adapt to team task. The balance between Inward and outward-facing focus depend on the amount of internal and external resources, support and information which teams need.

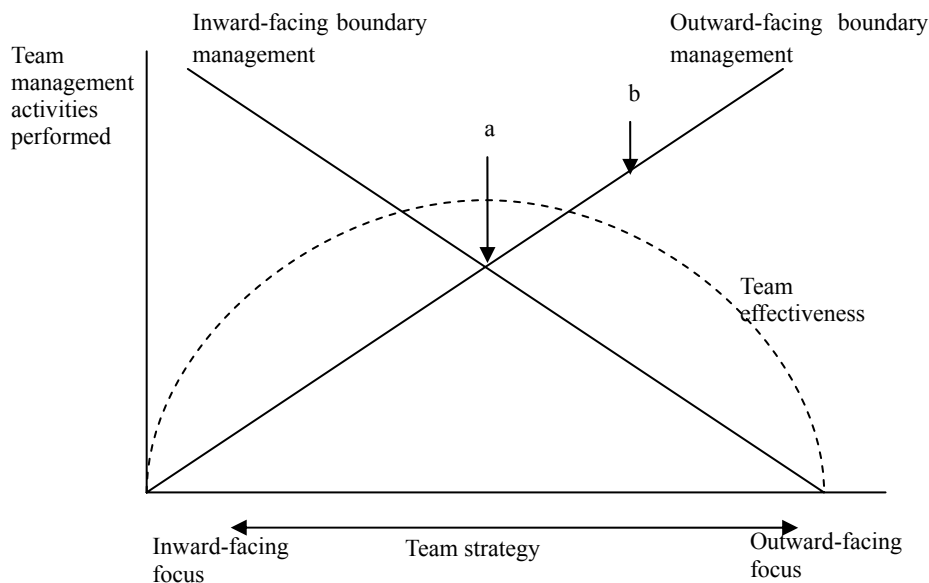


Figure 1 Model of Boundary Management Mechanism

4.3 Building high-effective team with cohesion

Team-building is an important issue in team theory. We propose advices and measures of team building by boundary management mechanism.

First, high-effective team with cohesion is built by inward-facing boundary management. The strategies of inward-facing boundary management contain the membership boundary management and reinforcement. Membership boundary refers to the standards of social classification if member belongs to a group; it is the basis understanding group behavior. Membership boundary management is important for creating identity of team, promotes identity with each other, and lays the foundation for team engaging in inward- and outward-facing boundary activities. Boundary reinforcement brings up the members' sense of identification with, belonging to and being proud of team by attracting, focusing and creating identity activities, maintain member attention and pull team resources together to the core task of the focal work team.

Second, high-effective team with cohesion is built by outward-facing boundary management. The strategies of outward-facing boundary management contain boundary buffering and spanning. Boundary spanning is able to be engaged by not only team members in their organization's roles, but also broad social networks between team's members and external stakeholders which are supported by fostering relatively open membership boundary. Boundary buffering serves to seal off the productive core, level variability in inputs and outputs, and protect team from environmental penetration. In addition to buffering potential disturbances of a technical nature, teams must protect themselves from noise emanating from administrative, cultural, and political domains to maintain freedom of actions.

Third, the strategies of balance of inward and outward boundary management include avoiding competition for resources, supporting and coordinating each other between the two type activities. More specifically, first, creating of team identity improve members' identification with the team goals. Second, creating atmosphere of trust and respect each other. Constructive group dynamics (interpersonal trust and respect) are significantly related with boundary spanning (Edmondson, 1999). Instead, members will be proud of high effectiveness which is produced by effective outward-facing boundary management activities, which improve the effectiveness of dynamic processes within the team. Third, maintaining clear boundary of team and relatively open membership boundary get a balance between overbounded and underbounded (Hackman, 1987). Overbounded teams which limit their activities excessively are little success. Underbounded teams which are lack of identity and commitment to team

goals are impossible to develop and implement a coherent strategy to complete a task. Thus, teams have not only a clear boundary, but also flexibility of requirements and arrangements for access to human resources by tasks.

5 Conclusions

Boundary management activities are crucial not only to R & D teams, but also to new product development teams, and may be necessary for other types of teams. Future research should investigate team boundary management activities within a wider range. This study on boundary management activities found that we should clarify the content of inward-facing boundary management and outward-facing boundary management activities more clearly, and identify how to implement the boundary management activities by distinguishing them from traditional ways of team building. More specific contents are as follows:

First, the researches of the antecedences of boundary management are necessary. Early the research focus less on the antecedences of outward-facing boundary management, and these studies limited in the organizational environment in which the team (Joshi, Pandey and Han, 2008), and does not pay attention to the antecedences of outward-facing boundary management. However, the researches of team boundary should not only concern factors within team, but also factors of external environment because of changes and complexity of organizational environment.

Second, greater clarity is needed with respect to relationship of boundary management, cohesion and team effectiveness. The relationship of these factors is extremely complex and intertwined. The relationship of inward- and outward-facing boundary management, cohesion and team effectiveness is still the core issue of the future researches of team boundary management.

Third, the evaluative model and theoretical model of team boundary management are important. The model, methods and tools of evaluating team boundary, and the theoretical model of the relationship of team boundary management and effectiveness are the difficulty in team theory and the key of empirical research.

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