Top Management Teams: Preparing for the Revolution

By

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This is the competitive age. Today, global economies and rapid technological change pose the major challenges to corporations. To meet these challenges most of us look to the top echelons of our corporations to map the route to a promising economic future. It is the top management team whose primary task it is to align the organization with its external environment in order to assure survival, profit, and growth. It is the top management team that is held accountable for the strategy and performance of the firm (Tushman & Virany, 1986). Consequently, as competitive pressures mount and business failures increase, industry becomes more and more interested in management team processes that will lead to success. This paper focuses on the process by which top management team members go about their task, and the link between this process and performance.

The push for the study of top management teams comes from academe as well as industry. There has been a demand for research to model the role of the top team in organizational evolution (Tushman & Virany, 1986), in mediating the relationship between team composition and firm performance (Hambrick & Mason, 1984), and in the collection and dissemination of strategic information (Dutton & Duncan, 1987). Although much of the research on top teams concentrates on the link between group demography and performance, diverse sources have called for more exploration of executive team processes.

Social psychology with its long tradition of analyzing the interactions among group members provides a partial framework for examining these processes (c.f. Cartwright & Zander, 1968; Kiesler, 1978; Lott & Lott, 1965). This perspective is limited, however, by its concentration on behavior within the group. An additional focus is from the group boundary outward. Such an external perspective (Ancona, 1987) seems particularly applicable in the case of a top management team that must not only manage its internal dynamics but

also monitor the external competitive environment, get input from other parts of the organization, and react to external sources of threat.

This chapter posits that at any point in time the CEO and top team face a task with complex internal and external demands. Differentiation between these two sets of demands are perhaps most clearly seen in government, which must both determine foreign policy and run the country. These demands determine the degree and kind of group processes that will lead to firm success; morever, the demands change over time. The question addressed here is: How can the CEO and top team manage the corporation so that it is efficient in its current operations, while simultaneously, and without undue cost, exploring ways to transform the organization to a form appropriate to meet future demands? How can the team be set up to meet demands during both evolutionary and revolutionary change? How can the top team become, and remain, a learning, adaptive system?

Does Top Management Make a Difference?

Implicit in this chapter is a model relating group process to team effectiveness, with task as a moderator variable. That is, given a particular task, I assume there is a way to design group process so as to improve or increase effectiveness. I assume, furthermore, that the effectiveness of the team will influence organizational effectiveness. In essence, the most basic assumption is that top management teams matter. In fact, there is mixed evidence on the subject.

Researchers have defined top teams in a variety of ways. Some refer to top level managers who are also board members (Boeker, 1988), while others include all those people who are corporate officers (Wagner et al., 1984). Here I refer to the CEO and his or her direct reports. Although numerous researchers have concentrated solely on the CEO, the importance of the top team has been amply

demonstrated. Michel and Hambrick (1988) found that in a sample of 133 firms top team characteristics and behaviors were more predictive of company performance than CEO behavior alone. Tushman and Virany (1986) found that under conditions of CEO change alone, firms were not able to successfully accomplish reorientations, while CEO change coupled with top team change did represent a successful strategy. Finally, Bourgeois and Eisenhardt (1988) found that high-performing firms involved the top team in strategic decision making, while low-performing firms had more autocratic CEOs who made these decisions. There is still much debate, however, on whether the top team influences firm performance.

Top Management Has Little Impact

On one side are those who believe that the top management team has little impact on organizational outcomes. One argument is that top executives are constrained by bureaucratic rules and organizational customs (Hall, 1976). That is, the organization has habitual ways of dealing with employees, tasks, or competitors that are determined by standard operating procedures that are inertial and thus inhibit the team's ability to affect the organization (Nelson & Winter, 1981). Another rationale given for limited impact comes from the population ecology perspective (Aldrich, 1979; Astley & Van de Ven, 1983), which asserts that environmental selection determines whether firms succeed or fail; firms that are ill-suited to the demands of their environment will be selected out. Proponents of this view assert that most organizations have limited control over their complex and often uncertain environment and a limited ability to adapt, at least in the short run.

Others argue that the top team has limited control in that it manages symbolically not substantively (Cohen & March, 1974; Pfeffer & Salancik, 1978). That is, the team controls the symbols that influence organization

norms and values, and these in turn have an impact on performance in the long term. Here the team is viewed as the source of the organizational culture or shared basic assumptions about the environment, work, people, and relationships (Schein, 1985). Because these assumptions are deeply embedded in the organization, change is difficult, and much time is required for substantive attitude and behavior change.

Top Management Matters

On the opposite side of the argument are those who posit that top management can make a difference. A number of studies indicate that performance can improve, particularly when a new leader comes in during a period of low performance (Helmich & Brown, 1972; Pfeffer, 1981). Case studies often present industrial giants who, with a selected top team, have brought a new organizational gestalt and reversed an organization's performance (Miller & Friesen, 1980; Samuelson, Galbraith & McGuire, 1985). Certainly, it is difficult to reconcile the view that top management has little impact with the stories of miraculous organizational transformations brought about by Alfred Sloan at General Motors (Chandler, 1962) or Steve Jobs and later John Scully at Apple Computer.

In a study of both contextual and leadership variables, Lieberson and O'Connor (1972) concluded that organizational and environmental factors exert a much greater influence on organizational success than executive leadership. Weiner and Mahoney (1981) criticize this work, however, because ofthe order of entry of variables in the regression equations. In a reanalysis of the data, they argue that 45 percent of the variance in profitability can be attributed to stewardship.

In an attempt to reconcile these two divergent views, Tushman and Romanelli (1986) argue that the top management group exerts influence over organizational

outcomes differentially over the life of the firm. Specifically, organizations evolve in a pattern of punctuated disequilibrium. For long periods they exist with slight changes in people, processes, structures, or culture. Interrupting these periods of slow evolutionary change are brief periods of more radical change when environmental shifts, technological discontinuities, or marginal organizational performance push for quick, substantive change (Tushman & Anderson, 1986; Tushman & Romanelli, 1985).

The evolutionary part of the cycle has been referred to as "muddling through" (Lindblom, 1959), and strategic incrementalism (Quinn, 1982). During these periods top management is basically in control of symbolic outcomes, as it influences values and beliefs throughout the corporation. In evolutionary periods, when the organization has a set direction and vision, top management works at convergence, that is, getting the organizational components to work more efficiently together to realize the vision.

During revolutionary periods, top management makes both symbolic and substantive changes in people, processes, structure, strategy, and, in some extreme cases, culture. These discontinuous periods are seen as reorientations as the executive team redirects the firm. During reorientations it is the strategy and vision itself that becomes the focus of change, and consequently the organizational components need to change to support the new direction.

Tushman and Romanelli (1985) predict a pattern of slow convergent change intersected by brief periods of fast, revolutionary change. Differing from Greiner's (1972) model of evolution as ordered stages, Tushman and Romanelli simply report a pattern of punctuated disequilibrium. There has been evidence of this pattern in the minicomputer, cement, and airline industries (Tushman & Anderson, 1986). Changes at Prime Computer are one example:

Prime Computer was founded in 1971 by a group of individuals who left Honeywell. Prime's initial strategy was to produce a high-quality/high-price minicomputer based on semiconductor memory. These founders built an

engineering-dominated, loosely structured firm which sold to OEMs and through distributors. This configuration of strategy, structure, people, and processes was very successful. By 1974, Prime turned its first profit; by 1975, its sales were more than $11 million.

In the midst of this success, Prime's board of directors brought Ken Fisher to reorient the organization. Fisher and a whole new group of executives hired from Honeywell initiated a set of discontinuous changes throughout Prime during 1975-1976. Prime now sold a full range of minicomputers and computer systems to OEMs and end-users. To accomplish this shift in strategy, Prime adopted a more complex functional structure, with a marked increase in resources to sales and marketing. The shift in resources away from engineering was so great that Bill Poduska, Prime's head of engineering, left to form Apollo Computer. Between 1975-1981, Fisher and his colleagues consolidated and incrementally adapted structure, systems and processes to better accomplish the new strategy. During this convergent period, Prime grew dramatically to over $260 million by 1981.

In 1981, again in the midst of this continuing sequence of increased volume and profits, Prime's board again initiated an upheaval. Fisher and his direct reports left Prime (some of whom founded Encore Computer), while Joe Henson and a set of executives from IBM initiated wholesale changes throughout the organization. The firm diversified into robotics, CAD/CAM, and office systems; adopted a divisional structure ; developed a more market driven orientation; and increased controls and systems. It remains to be seen how this "new" Prime will fare. Prime must be seen, then, not as a 14-year-old firm, but as three very different organizations, each of which was managed by a different set of objectives....Prime initiated these discontinuities during periods of great success (Tushman, Newman & Romanelli, 1987, pp. 2-3).

Executive team behavior has been shown to be vital to effective organizational evolution in a study of the minicomputer industry (Tushman & Virany, 1986). Under conditions of environmental change, such as technological discontinuities or shake-outs in the industry, firms that failed showed one of two patterns: no CEO or top management team change (and no reorientation in response to the environment), or desperate action repeated successively. Moderate-performing organizations responded to declining performance by changing both the CEO and executive team while simultaneously undergoing a reorientation. Corporate success in these circumstances was greater for internal than for external managers who had no knowledge of history, precedent, and informal linkages. Note that for these firms both CEO and top team change were required; either one alone was less effective.

A few high-performing organizations were able to successfully initiate reorientations just prior to environmental changes, but before performance declined. Somehow these high-performing firms managed reorientation without massive executive team change. Tushman and Virany (1986) speculate that group process variables determine whether teams are able to be visionary in predicting the need for change and flexible enough to carry it out. This paper will explore what those process variables may be.

The Task of the Top Management Team

As numerous researchers have noted, it is impossible to understand how group members should interact without understanding what they do (Herold, 1979; Goodman, 1986). Task definition in this case is admittedly difficult because a top management team has a great deal of leeway in defining its own task. Nonetheless some general characteristics seem to be common across teams.

The task is extremely complex. Top management makes major strategic decisions for the firm about products to produce, markets to serve, technologies and structure to employ, and stance toward the competition. These decisions each may be made in a different time frame, require huge amounts of information processing, yet often demand conclusions based on scarce information. These decisions are technically complex in that they involve multiple acceptable solutions, unpredictable changes across decisions and during decision making, a high degree of difficulty, and knowledge and skill dispersed across many individuals rather than centralized in one person (Herold, 1979).

The top management team's task is also highly uncertain, rather than routine. Issues that are non-routine and fall outside the realm of prior decisions get sent up the hierarchy. Only the most difficult and unusual get sent all the way to the top team (Galbraith, 1982; Quinn, 1982).

The top team's task is also socially complex (Herold, 1979). Tasks high in complexity of social demands require extensive and potentially problematic social interaction, with the group's product shaped and determined by the nature of that interaction process. The task attributes of ego involvement, agreement on means, and agreement on ends determine the social complexity of a task.

Ego involvement is exceptionally high because the team's decisions often can involve deeply rooted values (for example, do we lay off people), affect important aspects of participants' lives (such as whether you will get the desired budget for your group), and engage highly valued skills where performance reflects individual self-concepts (such as the ability to negotiate and win). Top teams may also experience considerable disagreement on means and ends because participants often come from different parts of the organization, each with different priorities, languages, values, and desired outcomes (Bourgeois, 1980). Despite the best of intentions, team members may have difficulty shedding their perspectives and biases when thinking about firm-level decisions (Kets de Vries, 1988).

Adding to the social complexity of the task is the fact that the top management team is very visible. Inside the organization, lower level managers constantly monitor the top team to glean clues about the future direction of the company and the appropriate behaviors and values (Peters, 1978). Externally, the news media, competitive firms, interdependent firms, financial analysts, headhunters, and stockholders watch top team progress and behavior, analyzing and evaluating it through their own sets of lenses and priorities. The team therefore must not only do its work, but also think about how its work is portrayed to the outside world.

Finally, the task of the top management team is very politically complex.

There is a lot at stake in the decisions made by the top team. Limited resources are allocated, making winners and losers, and creating inevitable conflict (Brett & Rognes, 1986). By definition, strategic decisions involve influence and power inside and outside the firm. Shifting the status quo involves shifting that power balance among multiple stakeholders.

Careers are at stake, for this is the top of the organizational pyramid; if a manager does not succeed here there are not many lateral positions to turn to. Perhaps most important, everyone on the team knows that the next CEO and Chairman of the company might be sitting at the meeting table (Vancil & Green, 1984). The uncertainty and the high stakes make the top team's process one where power acquisition and maintenance become dominant forces (Kets de Vries, 1988). Here we may see shifts of coalitions and attempts to take control that have little to do with the particular decision being made (Pfeffer, 1981).

In sum, the top management team's task is fraught with technical, social, and political difficulties that have to be resolved. The task requires specialized skills and knowledge, along with effective ways of allocating work. Even with the best process there is often no one best alternative; major disagreements over the desirability of various alternatives, goals, beliefs, or traditions may stand in the way of task accomplishment. The question becomes how the team can meet this complex set of demands. We look to both the internal perspective of social psychology and the external perspective of resource dependence to answer the question.

The Internal Perspective

Traditional social psychology takes an internal perspective, in that the group is seen as a setting that shapes individual attitudes, attributions, and decisions (Stephan, 1984). The lens of inquiry is positioned on the group boundary looking in toward the members, and not toward the external environment. Group research in

the internal tradition can be mapped according to a framework showing how individual, group, and organizational inputs influence group process, which in turn influences group and individual outputs (see Figure 1) (Gladstein, 1984; Hackman & Morris, 1975). For example, group member homogeneity in values, attitudes, age, and organizational tenure have been shown to result in low levels of intragroup conflict, high levels of communication and conformity, and subsequently to low turnover and high performance (see McGrath, 1984; Shaw, 1971; Wagner, Pfeffer & O'Reilly, 1984).

Input Variables

Numerous input variables influence a group's internal processes. One important input is group composition. Group member similarity, for example, is associated with interpersonal attraction and low conflict. The low level of conflict in the Ford and Eisenhower cabinets, in contrast to the Nixon and Carter cabinets, has been attributed to the homogeneity of membership (Wrightsman, 1985). Recent work looking at the demography of top management teams postulates a relationship between the diversity of the top management team and social integration or cohesiveness, and then between cohesiveness and performance. Financial performance is positively related to the coefficient of variation in terms of date of entry to the firm. In other words, companies with top team members who joined the organization at intervals that are not too far apart do better than those without cohorts. At the individual level, those managers who were more dissimilar in terms of age were more likely to leave (Wagner, Pfeffer & O'Reilly, 1984).

In top management teams, both age patterns and time of entry distributions will tend to predict similarity of attitudes and values, as well as interconnected communication patterns (Wagner et al., 1984). Similarity of individual characteristics promotes low conflict, an ability to work together, and positive group feelings. In turn, the group process somehow selects out

individuals who are different, thereby increasing homogeneity and smooth processes.

The interplay between group composition and process is seen in Song's (1982) study of fifty-three U.S. firms that had diversified and grown between 1965 and 1980. He found that the background and prior experience of the CEO was associated with the firm's diversification strategy. Those who were from Production and Marketing tended to be internal diversifiers, while those from Finance, Accounting, and Law tended to diversify through acquisition. These strategies, in turn, were associated with top team composition. Internal diversifiers had more people in the top levels from R&D, Marketing, and Manufacturing, while those following the acquisition strategy had more representatives from Finance and Law.

Other aspects of group composition that are believed to affect process and effectiveness are: skills needed to perform the task, enough group heterogeneity to assure that the team has the requisite knowledge and adequate diversity to match the environmental complexity, but not so much that conflict overwhelms the group's ability to act, and enough experience with the organization to assure a group's knowledge of standard operating procedures, organizational culture, and knowledge sources (Shaw, 1971; Sutton & Rousseau, 1979; McGrath, 1984).

Group structure also influences group process and productivity. Increases in group size expand the pool of potential resources, while making internal processes more difficult (Steiner, 1972; Thomas & Fink, 1963). Goal and role clarity and specific norms about work determine the degree to which member behavior is specified by routines, procedures, and prescribed roles. Specificity clarifies the task of each member, but tasks fixed for too long may limit the group's ability to remold itself in response to changed conditions

(Cartwright & Zander, 1968; Cummings, 1978). The degree of goal difficulty also has an impact on group process. Difficult goals can inspire high levels of motivation and commitment, while goals that are viewed as impossible to reach are seen as threats that lead to rigidity in the group and possible failure (Staw, Sandelands & Dutton, 1981).

Process Variables

Numerous theoretical schools hypothesize relationships between group process and effectiveness. The humanistic school has concentrated on maintenance functions that act to regulate group life and smooth interpersonal interactions (Bales, 1958; Philip & Dunphy, 1959; Likert, 1981). Important variables for organizational groups would include the establishment of trust among members (Gabarro, 1978), free and open communication, effective conflict management (Filley, 1975; Bettenhausen & Murnighan, 1985), and supportiveness (Bourgeois & Eisenhardt, 1988; Kiesler, 1978). A study of eight top teams showed that in low-performing teams information was often withheld or distorted in meetings, and there was a low level of trust. Outside of meetings team members met in small sub-groups where they complained about how meetings were run, and new side deals were made (Bourgeois & Eisenhardt, 1988).

Other theorists have concentrated on task functions that enable the group to solve the objective problem it has been assigned. Variables that would be important to groups in the organizational environment include rational decision making (Bourgeois & Eisenhardt, 1988; Janis, 1982; Schein, 1988), participative decision making if commitment is needed and information about the decision is dispersed (Hatvany & Gladstein, 1982; Vroom & Yetton, 1975), effective meeting and agenda management (Jay, 1976), discussing performance strategies so that processes can be changed if the task warrants it (Hackman, 1983), and a process to distribute work to match capabilities with task

priorities (Hackman & Walton, 1986). Smooth coordination of member effort is also an important process dimension.

The inadequacies in basic skills that have been shown to hinder performance in laboratory groups cause even more damage to top teams that require interaction for complex task accomplishment. For example, the need to have a group discuss performance strategies so as to be able to alter its work patterns when task demands shift is more important for highly complex tasks than for simple ones (Hackman & Morris, 1975). These internal processes are linked to the performance of the top team to the extent that the team task has high coordination demands.

The External Perspective

Traditional social psychology focuses on activities within the group's boundaries. Task and context variables are often controlled under laboratory conditions, in order to obtain more fine-grained analyses of internal processes (Hackman & Morris, 1975). Group members in organizations, however, view group process as including a separate set of activities beyond intragroup activities: cross-boundary activities aimed at interaction with those outside the group (Gladstein, 1984). The external perspective concentrates on this second set of activities and examines the relationship between a group or team and its environment. The environment includes the organization in which the group is situated and the external task environment outside the organizational boundaries that either provides input to or receives output from the group (Ancona, 1987).

The external perspective expands our model of group behavior (see Figure 2). Added to group composition are immigrants, emigrants, and captives from other parts of the organization. Now heterogeneity reflects not only the mixture of skills, abilities, and personality dimensions, but also the degree

of representation of external views, ideas, and expertise. Structure expands beyond the degree of clarity of group member boundaries vis-a-vis the group, to the degree of permeability or clarity of group boundaries vis-a-vis the organization. Added to task and maintenance processes are external, boundary activities aimed at modeling, influencing, and coordinating the activities of the team with the external environment. In the same vein, performance is extended beyond internal efficiency and satisfaction, to effective interaction and evaluation from external agents.

Central to the external perspective is the notion that the group is not a passive entity; it initiates activities toward those outside its borders in order to influence those outsiders and to deal with external dependence (Nadler & Tushman, 1988; Pfeffer, 1986). For example, research on boundary spanning indicates that research and development teams evolve specialized roles to import needed technical information from other parts of R & D, other functions, and those outside the organization such as university experts and customers (Allen, 1984; Katz & Tushman, 1981; Roberts & Fusfeld, 1983; Tushman, 1977, 1979; Von Hippel, 1977). A recent study of new product teams (Ancona & Caldwell, 1988) has examined not only the importation of technical information but also the external communications aimed at coordination, influence, and mapping of the external environment. Ancona and Caldwell (1987) found that groups use three strategies to manage their external environment: cross-boundary transactions, boundary permeability, and/or boundary definition.

Cross-Boundary Transactions

Cross-boundary transactions cluster into activity sets (Ancona & Caldwell, 1988). Ambassadorial activities include buffering activities aimed at protecting the team and representational functions aimed at presenting a

positive view of the team to outsiders and soliciting support for the team's activities. These activities attempt to influence powerful outsiders to support the team and provide it with resources while keeping other members free for other types of work. Task coordinator activities are aimed at getting specific technical information and coordinating work interdependence with outsiders. These activities include negotiating for delivery deadlines with external groups and getting feedback on the technical work of the group. They serve to improve coordination among organizational units and to improve the product via external inputs. Scout activities involve scanning the external task environment for ideas and trends that might have significance to the team. Scout activities, unlike task coordinator activities, do not include focused search for a particular piece of information or settlement, but rather more general search aimed at modeling the environment or detecting early signs of trouble or changes in external demands that may be important to the group. These activities help the group to monitor external trends and to collect data about changes that do not coincide with the group's model of the external world.

Boundary Permeability

While the group depends on certain external initiatives, sometimes the group needs to decrease its permeability, or cut itself off from the outside, in order to protect its internal process from interruption, excess information, and pressure. Several studies offer evidence that over the lifecycle of a group there are periods of openness to external communication and a frenzy of external initiatives followed by periods of internal focus with only small amounts of guarded external interaction; this cycle may repeat itself (Ancona & Caldwell, 1988; Gersick, 1988). The extreme of protection is to separate the group physically from the organization.

Decreasing the permeability of the group's boundary may be adaptive or maladaptive. It is adaptive to the extent that it is used as a short-term tactic to prevent overload and/or buy time for the group to get its internal functions running more efficiently (Adams, 1980). For example, skunkworks are a mechanism to improve product development by removing team members from organizational pressures and habitual approaches to product design (Galbraith, 1982). Isolation is maladaptive, however, if it is a long-term and sole response to external threat (Janis, 1972; Staw, Sandelands & Dutton, 1981). Long-term isolation, for example, can lead groups to become more and more out of touch with new environmental contingencies (Katz, 1982). Isolation allows the group to move more quickly and efficiently, but perhaps in the wrong direction. Groups need to find ways to both buffer themselves from excess information and pressure, while simultaneously monitoring changes in external constraints and demands (Adams, 1980).

Boundary Definition

An important tool for defining the nature of the interactions of the team with other groups is deciding who is included in the team. The immigrant, captive, and emigrant are individuals whose presence suggests that external dependence has been brought into the group (Ancona & Caldwell, 1988). The immigrant is an outsider who voluntarily joins the group, while the captive is an assigned member. The emigrant leaves the focal team in order to manage linkages with other groups (Adams, 1980; Ancona & Caldwell, 1987). These individuals transfer information and resources, link the focal team to other groups by communicating or holding joint membership, and co-opt outsiders.

Through the use of boundary transactions and boundary definition, the group manages its external dependence. By bringing members of interdependent groups inside the group boundary with the addition of immigrants and captives, the

team at least partially moderates its external dependence. Through boundary transactions a group is able to model and shape external demands, constraints, and opportunities so that it actually can decrease dependence or at least know the parameters of that dependence. Through changes in the permeability of its boundary, a group can protect its internal process, or conversely open itself up to external information and influence.

Applying the External Perspective to Top Teams

While these descriptions of external processes have come from a sample of new product teams, top management teams can also pursue external initiatives. Some examples follow.

External Influence. Ambassadorial activities are aimed at influencing the external environment. Given its visibility, the top team automatically sends signals to both external and internal constituencies (Peters, 1978). Through careful monitoring of those signals, the team can mold the views of those outsiders, market the image it wishes to create, and hence lessen external dependence and the need to adapt. For example, top management team members can regularly meet with the press, stockholders, and government officials to tell them how the firm is doing and how particular strategies are working. By providing a view of the organization to these outsiders, the team is shaping outside opinion, not merely reacting to a vision shaped by competitors or news taken out of context. By presenting its cars as the best designed and built in North America, say, Ford identifies itself as the best among a group of its own choosing rather than leaving itself open to comparison to other groups where it might not fare so well, such as imports.

This view of the team and the organization is consistent with the strategic management view of organizations (Astley & Van de Ven, 1983), which suggests that environments are partially enacted, and that top teams can shape and

influence those environments. Unfortunately there are distinct limits to enactment, and adaptation is necessary.

Specialized Committees. One mechanism by which to increase scout, ambassador, and task coordinator activities, and hence increase external initiatives, is through involvement of the next level of management. People at this level do not have to be made members of the top team, but they can serve on committees to assist the top team (Vancil & Green, 1984). Committees are a temporary structure that provides flexibility to the top team. New committees can be formed for new problems thereby reducing rigidity in problem solving.

Specialized committees afford the group an opportunity for increased scout or scanning activity to deal with environmental diversity, while not increasing the size of the actual team. The mechanism maintains internal communication and coordination and provides the contribution of alternative external views. Committees can also take on the ambassadorial role of protecting the team from excess information and undue pressure. They can work through the complexities of a problem and provide the top team with organized data and options from which to choose. Information from these lower levels also is closer to the actual source of uncertainty, and hence presumably more accurate.

Specialized committees made up of both top team and lower-level executives expand the task coordinator activities of the team by involving those who actually must implement the decisions (Quinn, 1982). The various factions that have to commit to deadlines can be brought together to negotiate delivery deadlines, while the top team can be sure that new initiatives and agreements fit strategic objectives. Finally, committees serve the function of exposing senior executives to the top team, allowing them access to privileged information and the views of the top team, while providing the team with new

perspectives and language.

Vancil and Green (1984), in a study of several top management teams, show widespread use of executive committees. An example is at Texas Instruments, where one committee advises on current operations and another works in the area of new product development. This allows the company to separate decisions on long-term versus short-term product planning, facilitating decision making. Other top-level committees are more focused, formed to deal with CEO agendas such as diagnosing the severity of a competitive threat and outlining possible next steps for the corporation (Vancil & Green, 1984).

Interlocking Directorates. Interlocking directorates--the CEO or other top-level executives from another company serve on your board, while your company executives serve on other boards--are a means for achieving immigrant and emigrant benefits. Interlocking directorates allow team members to collect information about related and interdependent firms and industries, and also to influence the directions and perceptions of those at the top of these industries (Pfeffer, 1986). The top team member who observes decision making at other firms is forced to compare and contrast the style and external models of his firm to those of others. This allows for questioning and updating of the model and alternative processes. Interlocking directorates also provide opportunities for executives to communicate and explore specific linkages such as joint ventures and development agreements (Pennings, 1980). The opportunity for co-optation is also present. Thus, this link to other companies helps to manage external dependence through scanning, influence, and coordination at the interorganizational level.

Matching Group Process to Task Demands During Convergent Periods

Having described evolutionary changes in the firm, the team task, and both internal and external processes, it is time to combine these perspectives and

make some predictions about organizational performance. In essence, I will argue that during convergent periods the top team faces some combination of coordination and environmental demands that determines appropriate group composition and process. While a certain composition and process may optimize performance under current conditions, the combination actually may sow the seeds of failure under changed conditions. The task facing the CEO is how to organize the team for current functioning while preparing for the revolution.

At any one time, a top management team is faced with both coordination demands and environmental demands (see figure 3). Coordination demands relate to the degree of interdependence among top team members. The higher the technical, social, and political complexity, the greater the need for top members to work together, and therefore the higher the interdependence. Teams with low coordination demands can be loosely coupled while those with high demands must integrate their work very closely. This integration can be met through sophisticated internal group processes (Shaw, 1971).

Using Rumelt's typology (1974), Michel and Hambrick (1988) argue that interdependence, and therefore the need for coordination, is related to a firm's diversification strategy. Firms lowest in interdependence are those following a strategy of unrelated diversification. This is followed by related-linked businesses, related-constrained, and finally, vertically integrated firms. The latter show the highest coordination requirements and therefore the highest need for task and maintenance skills. Only in teams with high coordination requirements is cohesiveness related to performance. Similar results were obtained by Song (1982), who found that cohesion and performance were related for internal diversifiers (high coordination demands) while they were not related for firms following an acquisition strategy.

Environmental demands have to do with the complexity occasioned by the rate

of environmental and performance changes (Aldrich, 1979; Galbraith, 1982; Nadler & Tushman, 1986). In order to meet high environmental demands, teams need to engage in high levels of external scanning, modeling, and influence. There needs to be coordination and information exchange with outsiders. The faster the rate of change in the environment the more the team has to find mechanisms to determine how fast it is changing, how others are adapting to those changes, and what the potential implications of those changes are on group and organizational behavior.

Similarly, a dynamic environment accentuates complexity. Terreberry (1968) posits that a complex, or heterogeneous, environment will reward organizations that engage in effective scanning and mapping of the environment. With a number of dissimilar elements in the environment, more external activity is needed to effectively map and track environmental change. Finally, declining performance poses environmental demands. When a firm's performance suffers, stockholders, the press, suppliers, customers, and competitors all increase their demands. Pressure to turn performance around results in the need to both buffer the organization from undue impact, and the need to respond to and mold external opinion. Thus, under conditions of high environmental demands, external behaviors are essential for improved performance.

Low Coordination and Low Environmental Demands--The Fundamentals

Let us look more closely at the processes that "fit" each combination of demands presented in Figure 3. In the first combination--low coordination demands and low environmental demands--process demands are relatively low. In fact, Galbraith (1982) has argued that these firms would do better if members of the top team see themselves not as business managers, but rather as portfolio managers, pushing managerial decisions and heavy coordination demands

away from them into the diversified businesses at a lower level in the organization. Nonetheless, I argue that in order to maintain high levels of performance, these top teams must master some fundamental processes.

Given the complex technical, social, and political tasks the top team must perform, the team must have some minimal task and maintenance skills. Certainly, teams must be able to call meetings and have everyone attend, follow agendas, surface information relevant to decisions, and follow through on commitments. Work must be allocated to those most able to carry it out and without undue overlap with other team members.

In order to support the task behaviors aimed at coordination and decision making, a minimal level of maintenance activity is also required. If work is to be delegated, there must be some level of trust that other people can execute their part of the task competently and will honor their commitments to do so (Gabarro, 1978). Furthermore, openness of communication is needed so that conflict can be surfaced and resolved, and decisions can be made with accurate information.

Finally, even under conditions of low coordination and environmental demands, top teams must be able to manage their internal politics. Conflict, coalition formation, and negotiated settlements may be the only mechanism to resolve the differing viewpoints inherent in organizations (Pfeffer, 1981), but when politics begins to distort judgment it can prove detrimental to the team (Bourgeois & Eisenhardt, 1988). The extreme case of this problem is seen when a successor to the CEO or Chairman is being sought. The succession process may be associated with distortions about firm performance, competitive pressures, managerial expertise, and future scenarios (Kets de Vries, 1988). It is suggested that top teams will be better performers to the extent that they work through the succession decision in a structured fashion, and that this process

is separated from ongoing decision making (Nadler & Tushman, 1988). Political behavior also can be controlled through appropriate modeling on the part of the CEO, and through rewards and objectives that are based on firm-level output, thus stressing corporate rather than personal or group-level objectives (Kets de Vries, 1988; Nadler & Tushman 1988).

High Coordination Demands and Low Environmental Demands-Internal Processes

More sophisticated task and maintenance processes are needed as coordination demands increase (condition 2). Here top managers face more social, technical, and political complexity. Executives must manage interrelated businesses, and decisions are not easily delegated to lower levels. The top team needs to become expert at developing compromise among divisional, functional, and personal agendas. In contrast to condition 1, the organizational units must be more tightly coupled, resulting in the need for negotiated agreements among units and an organizational vision to pull all units in the same direction. A good example of an organization in this condition is the telephone company before deregulation.

The internal perspective is most applicable to groups that are in this condition during convergent periods. Faced with difficult and complex internal demands, and low external demands, I hypothesize that these groups will be high-performing to the extent that they become homogeneous with respect to tenure in the company, education, and age. This similarity facilitates the cohesion, communication, and coordination needed within the team.

Homogeneous group composition works to create strategies that reinforce the need for more similar others, and such similarity facilitates smooth task and maintenance processes. People who are different are most likely to leave, just as the deviants in the early social psychology experiments were most likely to face negative sanctions from group members (Bales, 1958; Asch,

1956).

Other literature from social psychology suggests that over time this cohesion and communication will strengthen conformity to group norms and lessen the flow of information that conflicts with the group vision (Janis, 1972; Kiesler, 1978; McGrath, 1984). As similarity increases consensus, decision making becomes easier, members come to have high levels of trust in one another, participation increases (except when it threatens relationships in the group), members stay in the group longer, and adjustment to the group is easier (Brown & Garland, 1971; Dutton & Duncan, 1987; Janis, 1982). Similar people participate in social trade-offs that are low in cost, support the validity of each others' beliefs, and usually affirm the worth of each other's decisions (Byrne, 1971; Kiesler, 1978). Once similar people develop a smooth process, they attempt to maintain it by bringing in more similar individuals. Over time such groups exhibit less external activity and become very invested in the status quo (Katz, 1982; Pfeffer, 1981).

This set of interactions appears to work in the organization's favor under conditions of high coordination and low environmental demands. When the organization is in a convergent period, and the environment is not changing, the top group is needed primarily to manage symbolically. Similarity of viewpoint in this case helps to insure that the organization moves in a unified direction, coalescing around the given strategy. Success likewise breeds strong commitment, which helps to insure continued success and motivates members to deal with the negotiation, compromise, and high information processing needed for integration.

Low Coordination Demands and High Environmental Demands-External Processes

Top teams facing low coordination demands and high environmental demands (condition 3) develop very differently. Academic institutions are a very good

model of an organization that expects its members to monitor trends in the larger academic environment, and to make reputations for themselves in that external world--reputations that translate into internal rewards and power--and yet demands relatively low levels of internal coordination. The contrast in conditions 2 and 3 highlights some of the interrelationships between internal and external processes.

The internal cohesion that optimizes demands in condition 2 has been shown to lead to external stereotyping and an illusion of invincibility vis-a-vis the "enemy" (Janis, 1982; Sherif et al. 1961). This internal cohesion and the positive feelings that empower team members who share a common language and view of the world are related to a decrease in the external monitoring process and a tendency to shut off or distort external information that does not fit the group's vision (Caldwell & O'Reilly, 1982; Janis & Mann, 1977). This process works for the organizations facing condition 2, but would be harmful for those in condition 3.

External monitoring and communication with outsiders who have different values, priorities, and viewpoints, which is needed to meet environmental demands in condition 3, breeds conflict within the group as the multiple perspectives are juxtaposed and evaluated (Dougherty, 1987). Because teams in condition 3 have relatively low coordination demands, however, this conflict can be easily managed.

Performance in condition 3 is predicted therefore more by the external perspective. More specifically, the model here is a heterogeneous top team that engages in high levels of external scanning, modeling, and influence. The top team members develop broad, dense, external networks, with a simplified internal process and structure. Benetton, which has moved many organizational activities outside its boundaries (e.g., production and sales), yet optimizes

external scanning of those activities and market trends, is a good example of the new network organization (Galbraith, 1988). Power in such an organization is based less on internal politics and more on access to powerful outsiders who control resources that are critical to the team.

High Coordination Demands and High Environmental Demands--High Complexity

Teams facing both high coordination and environmental demands, condition 4, face the most difficult challenge. Computer companies, for example, face turbulent markets and are vertically integrated businesses. The sophisticated processes that are necessary here cannot be facilitated by a homogeneous team, because heterogeneity is needed to track a diverse and changing environment. At the same time, diverse views and values need to be harnessed for a unified set of decisions, as team members must coordinate closely. While teams in condition 2 may be overbounded (internally focused, with an intricate internal structure, strong shared values, and high conformity to group norms, but low and possibly distorted external models and interaction), and teams in condition 3 may be underbounded (high levels of external activity and identification with external groups, but little internal structure, low team identity, and minimal interaction), these characteristics fit their internal and external demands (Alderfer, 1976).

Teams in condition 4 must combine complicated internal processes with high external activity. Team members in these groups deal with high levels of conflict and ambiguity, as well as cope with the stress of internal and external demands. To meet these demands, team members must have high levels of social skills, be able to negotiate and compromise, be able to pool information from multiple sources, and to blend analysis and action (Bourgeois & Eisenhardt, 1988; Quinn, 1982). These teams may need all the mechanisms described in the external perspective, including external initiatives,

committees, interlocking directorates, and movement between buffering and an open boundary. Teams such as this pay a price for this increased level of activity in the form of stress, high turnover, and burnout. Team members in this kind of organization need to have very high levels of a wide range of skills, making them difficult to find, develop, and keep.

All these matches between process and task demands may work during convergent periods, but the same processes may not be useful during reorientations. In fact, processes that are appropriate for evolutionary periods, may hold only potential for failure during revolutionary periods.

Preparing for the Revolution

It is difficult enough for a CEO to develop a team to meet current coordination and environmental demands. Harder still is organizing to meet the fact that these demands change over time. Organization revolutions require that an organization move into condition 4. In order to accomplish large-scale change, that is, top team members must be able to handle the large coordination demands required to make sure that all organizational components are transformed to mesh with one another and to fit the new strategy (Nadler & Tushman, 1988). Similarly, the team must have a good model of the competitive and market changes that will threaten, or already have threatened, its competitive position and performance. Teams that are in conditions 1,2, and 3 face different challenges as they move to shift processes and change structures and carry out a revolution.

The Impossible

Perhaps the most difficult task is moving from condition 1 to condition 4. Top teams that have not developed either the internal processes for dealing with high levels of conflict, uncertainty, and change, or the external processes to monitor, model, influence, and mold the external and

organizational environment, may not be able to acquire the requisite skills in the time available. This may be an instance where there is a need to bring in a new team both to signal a change and to move the organization in the "right" direction. In order to adapt, teams in this position would have to be able to change in the ways described for conditions 2 and 3.

Increasing External Awareness

Teams in condition 2 also face a difficult challenge. The very commitment and uniformity that creates success during convergence is now maladaptive. Research indicates that individuals and groups may become so bound by their previous actions for example, that they remain committed to a strategy even after it has met failure (Staw, 1976). This process of escalating commitment has been termed entrapment (Rubin & Brockner, 1975) or having too much invested to quit. In the face of mounting evidence of failure, a team may become even more committed to the original strategy.

A team that is homogeneous also has less chance of detecting trends across a diverse and complex environment (Dutton & Duncan, 1987). Limited examination of the environment, a tendency to ignore warning signals, or an inability to monitor a broad and diverse set of cues may mean that a team picks up on environmental changes and declining performance later than competitors. Once signals are strong enough to get through to the group, the trends they are signalling may be quite well developed and perhaps even urgent. Urgency may provide momentum for a reorientation, or, if the trend is well established and is perceived as infeasible to solve, may propel the team into the rigidity of response that accompanies threat (Dutton & Duncan, 1987; Staw, Sandelands & Dutton, 1981).

The similarity of outlook, which once aided the group, now forestalls the recognition of external change and internal failure, thus increasing the

probability that these events will be difficult to deal with and will be perceived as threats rather than opportunities. Reactions to threat often limit a group's ability to be creative, to change its processes and procedures, in short, to adapt. On the positive side, this team is in the best position to be able to make internal changes and motivate the rest of the organization, if it discovers external trends quickly enough.

The external perspective offers some insight into how teams in this condition can prepare for the revolution. By increased external initiatives, management of the team's boundaries, and including external representatives, the team should be able to predict external change better and to adapt to it. These teams can also prepare themselves for environmental change through exercises such as scenario construction, which enhance it ability to detect and act on technical discontinuities and economic downturns. The price, however, may be increased conflict and lower cohesion in the team, more stress for team members, and extra time and expense.

Increasing Internal Integration

Teams in condition 3, because of their external vigilance, are more apt to pick up on environmental change that needs to be attended to; they are least able, however, to mobilize themselves, and the rest of the organization, to do anything. Members in such groups and organizations have external loyalties and are not accustomed to a high degree of internal coordination or negotiated settlements. In this condition, steps need to be taken to shift organization and team members to focus their energies inward, rather than outward. This switch may be difficult, because by it nature an unbounded team does not tend to promote loyalty among its members, and the task of coalescing the changed external information and viewpoints into a new, strategic direction may seem beyond the team's ability.

In condition 3, the internal perspective offers some suggestions to prepare for the revolution. Rewards that are tied to the organization, and that are related to joint, internal activities, will push team members to learn the skills required for coordination. The team structure might benefit from a senior member who is responsible for internal coordination and control. In many university settings, for example, an external dean may represent the school to important constituencies and raise money, while an internal dean makes sure that the school is running effectively. This internal dean often sets up committees dealing with various institutional functions (e.g., personnel decisions and strategy formulation), so an internal structure promotes the interaction and problem-solving skills needed to run the institution. Finally, a process consultant can be used both to prepare for the revolution and to cope with it. The process consultant monitors internal processes and can help to move the team up the learning curve to smooth, efficient interactions. Once again, these precautions have costs. Team members may see such activities as tangential to their more important external activities and resent the time given to internal exercises.

Coping With The Revolution

Top teams in condition 4 are best equipped to deal with the revolution. These teams have been paying the price for simultaneously dealing with internal and external demands all along. The payoff certainly would be felt during revolutionary periods, in that external trends can be detected earlier, and the internal processes are in place to respond to those trends. Will the revolution therefore be painless? Unlikely--no major change is painless. Environmental change still requires some change in the composition of the top team in that new external contingencies may need to be monitored and influenced. Nonetheless, condition 4 teams are most prepared for the

revolution.

So can CEOs prepare their teams for the revolution? The answer is a modified yes. It can be done, but there are heavy costs involved, and luck plays a role. For example, Franklin Roosevelt's style as President was to act as if there were many coordination and environmental demands. He gave groups and individuals overlapping responsibilities and problems so that responses could be debated and experimentation promoted. This practice was very frustrating for some of those who worked with him, yet Roosevelt's cabinet was well-equipped to cope with the New Deal. This management team groped its way toward economic solutions never before considered within the domain of government. The strong emphasis on experimentation proved to be highly productive in this case (Wrightsman, 1985).

Should all teams move into condition 4? No. Top teams need to decide whether cutting down on their efficiency in the shortrun has major effectiveness benefits in the long term. This can be decided only in light of the rate of technological and industry change, which, in turn, determines the likelihood of a revolution (the minicomputer industry versus the cement industry, for example), the ease and cost of replacing the top team, and the CEO's ability to push against group processes that can take on a life of their own. If an industry requires reorientation only every hundred years or so, it is not clear that preparing for it on a routine basis makes any sense. It is for future researchers to outline the trade-offs more carefully, and evaluate the wisdom of making them.

And after the revolution? The team again enters a convergent period and must move to coalesce around its new strategy. This is not the time to make more major changes, but rather a period to refining the ones that have just been made (Tushman & Virany, 1986). It is a time to move into the internal

process mode, then to enter the condition suggested by the discussion above.

Conclusion

Top management teams face technical, social, and political complexities that create coordination and environmental demands. To cope with these demands, the team must con currently develop some minimal level of internal process skills and manage political behavior. Teams facing higher coordination demands also must create meaning and cohesion through shared visions, biases, and information. This is often accomplished through homogeneity of team membership, which allows for similarity of values and attitudes. Consensus decision making, negotiation, and coordination are all facilitated when this homogeneity exists. Furthermore, under conditions of positive performance the team begins to become more uniform and believe that its view is indeed the "right" one. Dissonant views are quieted, and information is collected to support the directives from the top.

This interaction of group composition and process creates high performance under conditions of high internal coordination and low environmental demands. When environmental demands are high, and internal coordination demands are low, however, this emphasis on homogeneity and coordinated interaction among members is replaced by a need for heterogeneity and high levels of environmental scanning, modeling, and influence. Top teams facing high levels of both coordination and environmental demands must adopt complex structures (multiple committees, say), and follow complex processes (such as the ability to negotiate), to deal with demands that pull the team in multiple directions.

The traditional social psychology paradigm, coupled with the external perspective, provides a means to model successful processes during evolutionary, convergent, periods. These perspectives also allow us to foreshadow the difficulties involved in shifting these processes in preparation

for revolutionary periods.

Teams must manage both complex coordination and environmental demands during revolutionary change. Convergent periods and a long history of success, however, may encourage top teams to focus on optimizing either internal or external processes. This optimization may allow for efficient operation in the short term, but will inhibit long-term effectiveness in industries that require frequent reorientation and revolutionary change.

Top teams can indeed prepare for the revolution by maintaining a balance of internal and external process skills, yet there are costs that make this strategy inappropriate for many organizations. The pairing of the internal and external perspectives allows us to better understand how this choice can be made. These perspectives also help to explain the behavior of top teams that are striving to deal with rapid technological change, global economies, and the complex interactions among the organizational elite.

FIGURE 1: AN INTERNAL PERSPECTIVE OF GROUP BEHAVIOR

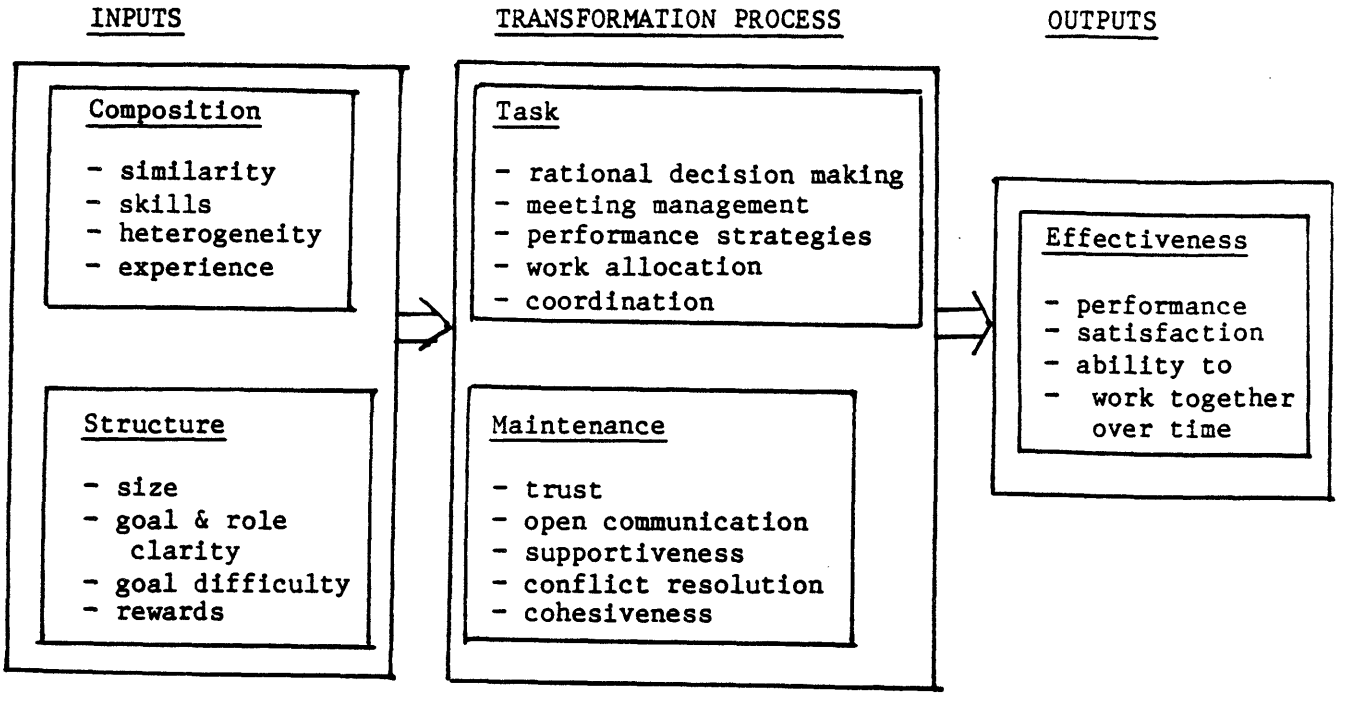


FIGURE 2: AN INTERNAL AND EXTERNAL PERSPECTIVE OF GROUP BEHAVIOR

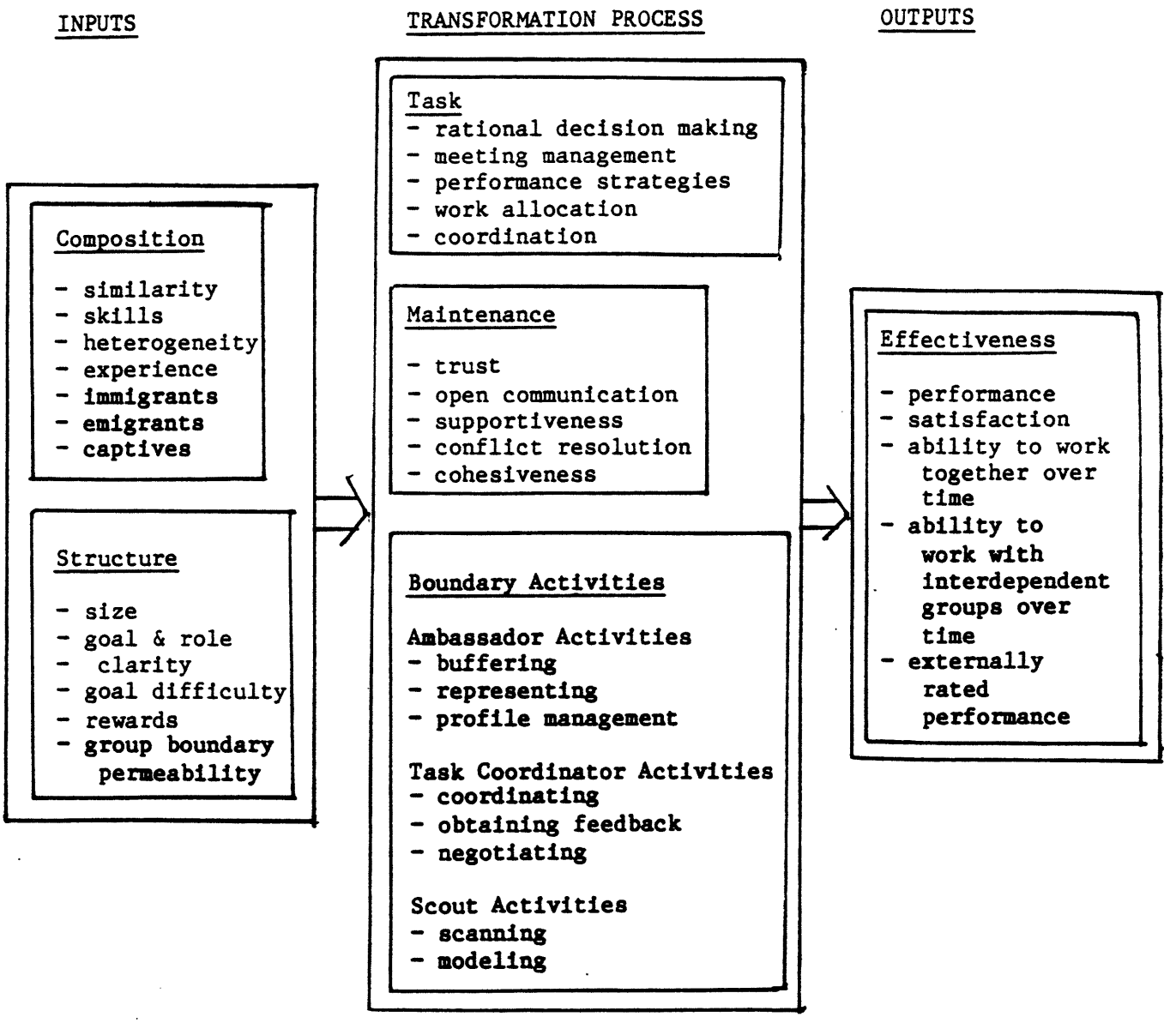
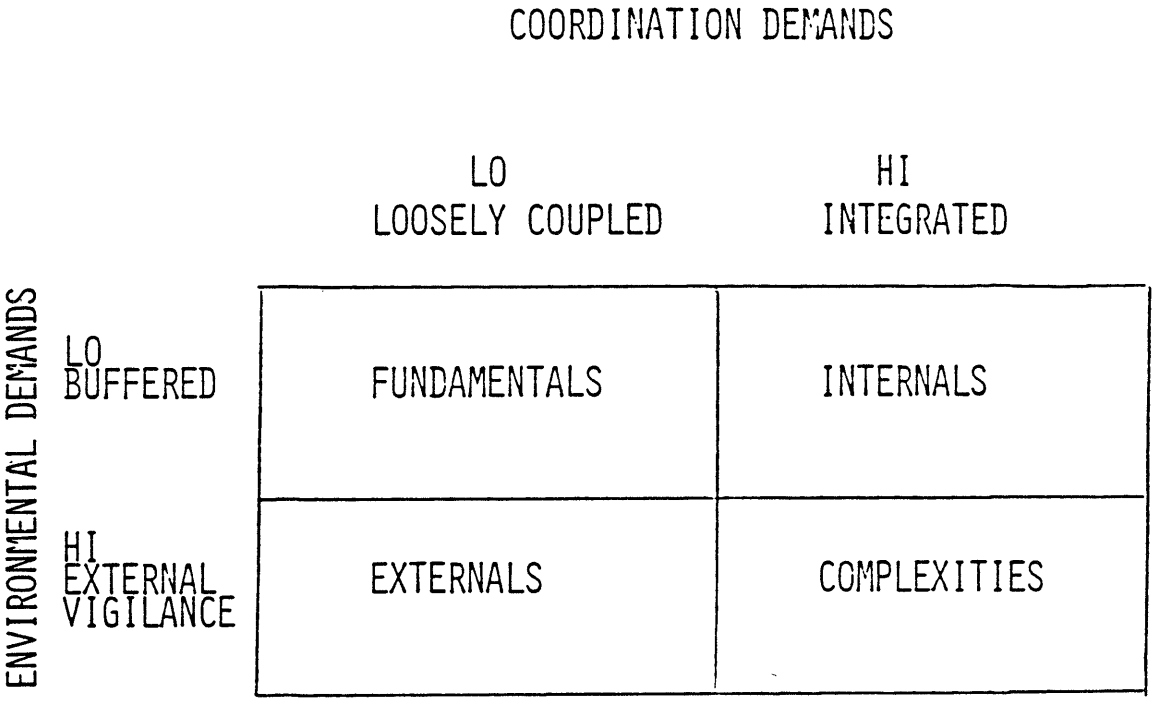


FIGURE 3: GROUP PROCESSES NEEDED TO MEET COORDINATION AND ENVIRONMENT DEMANDS



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