

Network Conditions for Organizational Change

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Understanding the overall network structure of organizations can help managers to support change. This article describes three different network theories of change, exploring the underlying assumptions and implications of each model. First, the E-I model predicts that cross-departmental friendship ties will help generate positive response to change in organizations by fostering trust and shared identity. The viscosity model predicts that introducing controversial (not clearly good or bad) change into the periphery of an organization and carefully regulating the interaction of innovators and nonadopters provides the best chance that it will diffuse successfully. Finally, the structural leverage theory presents a mathematical model that supports broad diffusion of clearly superior change, informing as many people as possible about the change.

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Networks are a natural focus for change agents. We often look for central opinion leaders to be the leverage points for change (Baker, 1994; Rosen, 2000). Once we have identified them, we focus our change efforts on them, and according to the theory, the rest of the organization follows (e.g., Krackhardt, 1992). But one issue that has often been overlooked is the nature of the network as a whole and how that affects change efforts. That is, what is the shape of the network as a whole, and how does that shape affect the speed or even probability of a successful change?

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To address this, we draw on three opposing theories, each of which makes some sense, yet each predicts very different conditions for successful change. Just as organization development specialists often present differing perspectives on organizational change strategies (Alderfer, 1977), we suggest that there are different and occasionally conflicting network conditions for change.

The network models we will discuss here have some assumptions in common. First, they assume change is an ideational process. That is, one must first change people's awareness, attitudes, and beliefs about the change (e.g., Argyris & Schon, 1978). Second, they assume that change is a dynamic process of social influence. Change does not occur overnight but instead often involves a long process of convincing a string of people, who in turn convince others, of the feasibility of the change effort (Rogers, 1995).

But beyond these integrating assumptions, there are deep differences among these models suggesting very different preconditions for organizational change. In the following sections, we present three models for change, discussing their preconditions and the conditions for change that they suggest.

MODEL 1: DENSE INTEGRATION THROUGH EXTERNAL TIES

The first model suggests that change is more likely to be successfully implemented when the social network in the organization is strongly connected (Krackhardt, 1994a; Krackhardt & Stern, 1988). The line of reasoning behind this is that diffusion of innovative ideas happens along network paths. If an idea is successfully installed or adopted at one seed location, the extent to which it carries to other parts of the organization is a function of the paths of network ties to those distant locations.

Krackhardt and Stern (1988) go one step further to state that the conditions for successful implementation of radically new changes include an abundance of ties that cut across formal organizational subunit boundaries (departments, divisions, etc.). Their argument can be summarized as follows:

1. Change often is threatening to people because of the uncertainty it causes about the future.
2. This perceived uncertainty will result in conflict among various subunits in the organization.
3. This conflict leads to increased commitment to the local subunit and to reduced cooperation with other subunits.
4. Yet to successfully implement the change, more cooperation, not less, is required across these subunits.

Thus, unfortunately, this reduced cooperation comes at exactly the time when adaptation to change requires cooperation among subunits. Krackhardt and Stern (1988) suggest a counter measure to this logical pessimism:

1. Increased cooperation is enhanced when individuals trust each other.
2. Strong friendship implies trust.

3. In times of change, then, organizations in which friendship links exist between subunits will be more effective than those in which strong friendship links exist only within subunits.

Krackhardt and Stern (1988) suggest an additional benefit that such interlocking patterns of friendship ties will have for the organization undergoing change. They argue that friends influence people's general motivations through identities. If a person has friends only within the department, then one identifies with the subunit (department, team, division) alone. On the other hand, if one has friends spread throughout the organization, then one's identity becomes tied to this larger entity, the organization as a whole. That is, these friendships influence the part of the organization that one is trying to protect in the change process. As one's individual friendship ties are spread more widely throughout the organization, one identifies more with the larger organizational entity and is more willing to engage in cooperative and altruistic behaviors necessary to make the change work for the organization.

Krackhardt and Stern (1988) propose a simple and direct measure of this structural feature, which will facilitate change. This measure, called the E-I index, indicates the extent to which the overall organization is characterized by interunit, as opposed to intraunit, strong ties. The E-I index is calculated as follows:

$$EI = \frac{E - I}{E + I},$$

where E = number of ties that cut across subunit boundaries, and I = number of ties that connect people within the same subunit.

When adaptation to change is necessary, organizations in which members maintain friendship ties with others outside their own unit are likely to perform better because their members will be making decisions to benefit the organization overall, not just their own subunit.

Krackhardt and Stern (1988) are quick to point out, however, that exhibiting a high E-I index is not that simple. Indeed, E-I indices tend to be negative; that is, informal ties tend to occur among people within subunits. This happens for two reasons. First, people tend to be collocated within these subunits. The "law of propinquity" (Allen, 1977; Krackhardt, 1994b) states that people who are physically closer together are more likely to interact and form stronger relationships among each other. Therefore, we naturally expect and observe more and denser ties among people within a subunit than among people of different subunits. Second, even if they are located across large spaces, people within the same subunits often are forced to interact with each other because of the task dependencies that occur within subunits (Krackhardt, 1994b). Over time, these interaction patterns (or at least some subset of them) become the foundation for friendships. Therefore, it may be posited that a high E-I index will facilitate the cooperation necessary for change, but it also is unlikely that an organization will naturally emerge with such a structure without purposeful and strategic intervention on the part of management to encourage and produce such a structure.

Krackhardt and Stern (1988) put their theory to an empirical test. They set up a series of experiments as part of a course exercise. The protocol for the experiment was

