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LARGE-SCALE ORGANIZATIONAL CHANGE AS LEARNING: CREATING TEAM-BASED ORGANIZATIONS

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Large-Scale Organizational Change As Learning: Creating Team-Based Organizations

by

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ABSTRACT

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The transition to a team-based organization is a large-scale organizational change. It is both pervasive and deep. It entails a change in the design of the organization and in the beliefs and assumptions of organizational members. Such a change requires learning processes through which organizational members both design and refine the new organization and learn how to operate effectively within it. The transition issues that are faced mirror the organizational issues that must be resolved. Both require the establishment of systemic learning processes. Transition is framed as organizational self-design.

Large-Scale Organizational Change As Learning:
Creating Team-Based Organizations

Large-scale change has been defined as change in the character of an organization that significantly alters its performance (Ledford, Mohrman, Mohrman and Lawler, 1989). It is pervasive, involving change in many aspects of the organization; and it is deep, entailing fundamental shifts in the way organizational members understand and image their organization, in their beliefs and attitudes, and possibly in their values. Organizations worldwide are now in the midst of a prolonged period of large-scale change, as they alter their nature to measure up to the performance pressures that they are experiencing, and to compete on the various strategic battlegrounds that have characterized the emergence of the global economy (Galbraith and Lawler, 1993). Organization and management have become the only enduring competitive advantage. Specifically, the successful organization of the future will be characterized by an organizational architecture (Nadler, Gerstein, and Shaw, 1992) or design (Galbraith and Lawler, 1993; Mohrman and Cummings, 1989) that enables flexibility and learning. Such designs represent significant changes in the character of organizations that were initially built for high performance in stable environments.

Although the broad contours of the flexible, learning organization are being described in both the popular and academic press, there is no recipe nor a complete prototype. In fact, given the call for flexibility and the predictions that the dynamic environment will present a series of strategic challenges, tomorrow's successful organization may be characterized by the processes it must house rather than by a prescriptive architecture. These processes will include the ongoing self-design of the organization itself (Mohrman and Cummings, 1989). Successful organizations will have mastered approaches for continually modifying their own design.

Hierarchy, chain of command, vertical control, standard operating procedures, work breakdown, and functional stovepipes characterized the high performing

organizations of bygone stable environments. The new design prescriptions call for flat organizations, self-management, organization around integrated processes, cross-functionality, and empowerment. The increased use of teams is a common element of many of these prescriptions, as well as a major aspect of emerging practice. A number of organizational theorists predict flat, flexible organizations composed of loosely coupled, dynamic teams that form and disband to accomplish the array of tasks that emerge as the organization defines and pursues its dynamic strategy in an unfolding environment (eg., Savage, 1990).

Team-based organizations are becoming more common. These are organizations where teams are the predominant form of performing unit in the organization (Mohrman, Cohen and Mohrman, forthcoming). Teams carry out the transformation processes of the organization as well as its integrative and learning and improvement functions. The transition from a vertically oriented, hierarchical organization where individuals occupy positions along a chain of command to a laterally-oriented, team-based organization composed of a dynamic configuration of teams is a large-scale change. Nearly all aspects of the design of the organization must change, and, if the new organization is to deliver on its promise, the individuals within the organization must learn a new way of understanding and operating within their organization. Furthermore, the configuration of teams will change as strategic challenges unfold and the market changes. Organizational members will have to master heuristics and change processes that will enable them to modify their team design through time.

This paper examines the nature of the large-scale change to a team-based organization. It argues that team-based organizations represent a fundamental departure from the hierarchically and bureaucratically fashioned traditional organization that requires new images of the organization as well as extensive new design features.
It then applies a self-design model as a way of achieving change of this magnitude. It makes the case that a team-based organization must be a self-designing system if it is to

flexibly respond to performance demands, and that the transition to a team-based organization requires that the organization become a self-designing system. The conceptualization of the change that is required to establish a team-based organization and the examples that are presented come in large part from a recently completed study of team-based knowledge organizations in eleven major U.S. corporations. The design model that is based on the learnings from that study is presented in detail elsewhere (Mohrman, Cohen and Mohrman, forthcoming). This paper first presents a very brief overview of some of the key design dimensions of the team-based organization before it focuses on the transition issues.

Team-Based Organizations

Teams are performing units in the team-based organization. There are a number of different kinds of teams that may be present, performing different roles (see Mohrman, Cohen and Mohrman, forthcoming, for a more detailed description of these kinds of teams). *Workteams* conduct the transformation processes of the organization; they perform the activities required to convert inputs into products and services that have value to the customer. One workteam model that has been extensively described in the literature is the autonomous or self-managing team that has been a focus of the socio-technical systems literature (eg., Cummings, 1978; Pasmore, 1983). *Integrating teams* perform the task of integration across parts of the organization. For example, a systems integration team might be formed to ensure that the components that are being developed in multiple component design teams will ultimately fit together into a functioning electronic system. Galbraith (1994) describes integrating teams that span business units and integrate particular dimensions of organizational performance, such as a geography or all of the products or services that are offered to a big customer. *Management teams* are a particular form of integrating team, whose tasks include articulating an integrative direction for the organization, making sure that the organization is properly designed to accomplish its

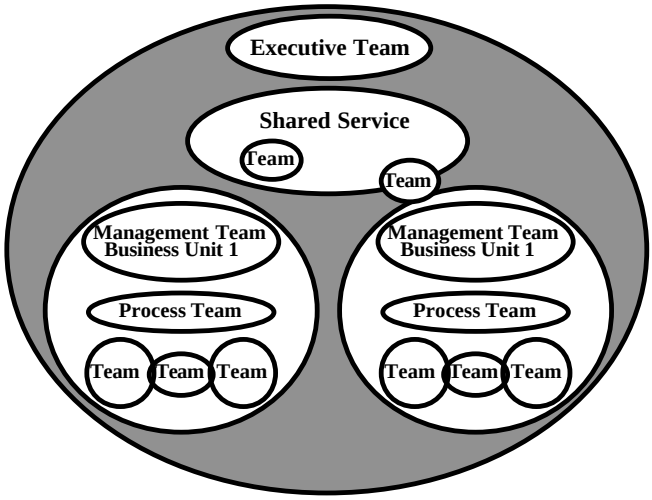
mission, providing feedback to the performing units of the organization, and holding them accountable for their goals. *Improvement teams* examine and design improvements in the way the organization is functioning. Process and quality improvement teams (Deming, 1986; Juran, 1989), various kinds of "task forces," and reengineering teams (Hammer and Champy, 1993) are examples.

Many organizations are using these various kinds of teams on an as-needed basis within a context where the formal hierarchical, functional organization remains, and the teams are established to attend to organizational needs for integration or improvement that are not met by the existing organization. Using teams in this manner does not constitute large-scale change as it does not lead to fundamental changes in people's understanding of the organization. Nor does it entail pervasive changes in the many sub-systems and elements of organizational design. However, establishing effective teams in such a context is a difficult proposition, as team members are operating within a system of mixed messages and conflicting logics (Mohrman, Cohen and Mohrman, forthcoming; Donnellon, forthcoming). Studies of quality circles, for example, found that the such programs frequently died out because their success required extraordinary effort by organizational members to offset and shield them from the prevailing logic of the hierarchical stovepipe organization (Lawler and Mohrman, 1985, 1987).

Increasingly, organizations are redesigning themselves to be team-based. Their expressed purpose is to create teams that can be held accountable for an identifiable piece of the business, such as the design of a component, delivery of services to a particular customer or group of customers, or conducting a particular project. In this case, teams are the performing units through which value is delivered to the customer. Creating a team-based organization constitutes large-scale organizational change. Many of the design elements of the organization are changed to support and fit with a manner of operating in which teams are performing units, and the effectiveness of such an organization requires that organizational members have a new and shared understanding of the organization.

The portrayal of the organization is a link between the system and people's perceptual understanding of it. If the system is to operate differently, people's mental images need to change (Massarik, 1980). Elsewhere, we have advocated that team-based organizations be visually depicted in a way that captures how they are intended to operate (Mohrman, Cohen and Mohrman, forthcoming). Figure 1 provides one such mode of depiction that captures and can be used to illustrate a number of the key operating characteristics of team-based systems that distinguish it from the traditional hierarchical line and box organization.

Figure 1: Example of a Team-Based Organization



Adapted from Mohrman, Cohen, and Mohrman (forthcoming).

First, this depiction focuses on the *performing units* of the organization rather than on a reporting chain that may be largely irrelevant to the way in which work is accomplished and value is added. There are a number of kinds of performing units, each of which gets depicted in the diagram. Workteams, integrating teams, management teams and process improvement teams are all present in this depiction. Such performing units as improvement teams and integrating teams are often invisible in the traditional line and box portrayal of an organization. Not suprisingly, in organizations where people's mental image of their organization is determined by the line and box organization chart, the work of these invisible lateral mechanisms is often given little credence by the people in the organization they are intended to affect.

The depiction portrays *multiple systems levels* including teams, business units and the company. A fourth level, the individual, is implied although not depicted because in team-based organizations the same individual may in fact reside in multiple performing units. *Each systemic level implies a greater scope of responsibility and authority*. For example, a business unit process improvement team has authority for improving processes within the business unit. A workteam has authority for making decisions about its own operations. It does not have authority for making decisions that constrain other teams. Decision-making that affects multiple teams has to come from forums that span the interdependent teams, such as an integrating team or an ad hoc meeting of representatives from the affected teams..

This depiction *redefines the notion of hierarchy* that has become prevalent that refers to or conforms to a chart and lines and boxes. Hierarchy does not disappear. Rather, it is redefined systemically and refers to the need in an organized complex system for decision making at broader systems levels to provide authoritative direction and a context for decisions and activities at a narrower scope in the organization. Perhaps most importantly, hierarchy becomes decoupled from individual rank on a chain of command. Individuals can serve simultaneously or consecutively on performing units at various scopes. Teams are not composed of members at the same "level" in a chain of command in the organization, but of people who bring the needed perspectives, knowledge and skills. Even management teams are not necessarily composed of individuals at a higher hierarchical level, although they perform tasks that have traditionally been associated with management.

The emphasis in the team-based organization is on *lateral functioning*; i.e., bringing together the various perspectives required to carry out the piece of the process or conduct the sub-business that is their domain of responsibility. These teams have responsibility for integrating among themselves rather than relying on hierarchical bosses to do such integrating. They also have responsibility for organizing themselves for

effective performance. On the other hand, in most organizations, the work cannot be completely segmented and self-contained because of system-wide interdependencies. This has especially been found to be true in knowledge-work settings (Pava, 1983). Consequently, integration across teams is required, wherever possible through lateral mechanisms such as cross-teams or integrating teams that are composed of people who can represent the perspectives of the various teams that are being integrated.

The effectiveness of team-based organizations depends on the organizational members having a *shared understanding* of the organization, its strategies, goals, and performance. Teams are empowered to make trade-offs and determine procedures that were historically specified hierarchically; consequently, processes must be in place to make sure that team members have access to information that enables them to make informed decisions that take the needs of the larger system into account. Teams are expected to integrate their work with other teams in the organization; they must have adequate understanding of the design of the organization and the locus of various activities to operate laterally effectively.

Shared understanding of the organization is not a static phenomenon. Rather, team-based organizations generally have a *dynamic configuration* of teams. Workteams may shift through time as customer sets change or strategic focuses alter. Temporary teams such as project teams and improvement teams are set up for particular performances and then disband. Integrating teams may be required at a certain stage in the development of a business or the conduct of a project or engagement, and then disband.

Management teams have the business unit or company wide perspective to examine whether the array of performing units is optimal for carrying out the strategy of the organization, and whether resources are being allocated in a manner that makes it possible for performing units to accomplish their mission. They also have responsibility for ensuring that information about strategy and design are broadly known, and that there is shared understanding throughout the organization. They are in a position to orchestrate the

management of the performance of the various performing units in the organizational unit that constitutes their domain.

Individuals' roles and expected contributions in a team-based organization are no longer mediated by their bosses in the chain of command. Rather, their performance now occurs within the context of teams, their goals and activities are determined by the needs of the team, and they are evaluated according to the extent to which they have contributed to team performance and the team has performed effectively. Team members are held collectively accountable, and effective performance is determined by their ability to influence one another and learn from one another (Mohrman and Cohen, in press).

Effective team-based organizations are by necessity learning organizations. Lateral coordination and integration require ongoing learning by people with different skills and knowledge in order to effectively integrate perspectives (Dougherty, 1992). People who have been in technical contributor roles are now parts of teams that must also address business issues. They must develop themselves as effective performing units by learning new and better team performance strategies (Hackman, 1990). Management teams must continually learn what is required for strategic success and redesign the organization accordingly. People in the organization will have to repeatedly learn new ways to operate in a changing organizational context.

It is evident from this depiction that transitioning to this kind of an organization entails pervasive and deep change. The change process must be a learning process. Organizational members must learn how to design a team-based organization, in part a technical learning process, and how to operate effectively within it, a social learning process. The organizational configuration must be tailored to the strategy and work of each organization. Consequently, the organization has to design itself. It cannot take a design "off the shelf." Furthermore, because the organizational design will be dynamic, the organization has to have ongoing self-design capabilities. In essence, the organization is self-designing a self-designing system.

Issues in the Transition to a Team-Based Organization

The organizations we studied encountered a common set of problems in transitioning to a team-based organization. The issues are characteristic of large-scale change. These issues pertain to the design of the organizational system, enabling and facilitating the vast amount of organizational learning that is required, and sequencing and managing the change in multiple aspects of the organization. Specific manifestations in these three areas are briefly described below.

I. Issues in Designing the Team-Based System

Most of our organizations were having difficulty designing the team-based system. Especially problematic were the following:

The Design of the Teams. The initial design attempt for a new team organization can be expected to have problems getting the team design to fit the work. All the organizations we studied had to make at least minor and often fairly major changes to their team configuration in order to get it to fit with the work and strategic requirements. In some cases key stakeholders were omitted for political reasons. In others, members were included who were in supporting but relatively peripheral roles, and these individuals were spending large amounts of time sitting in many team meetings where the agenda was largely irrelevant to them. It was not uncommon for teams to be reconfigured because the design team had misjudged the most important interdependencies or had created teams that cut across processes and resulted in fragmentation rather than integration. In one organization, for example, the technology development teams were in a separate organization from the design teams that were applying their technology.

A related phenomenon was poorly chartered teams. It was not uncommon for teams to have no charters, and thus ambiguous authority within the organization, or poorly crafted charters that gave teams vague or inappropriate responsibilities. An example of this were

market teams given the charter for handling all relations with large customers, although groups in two other business units had direct contact with the customer and senior managers regularly made customer visits and frequently made promises to customers.

Embedding the Teams in the Larger Organization. Organizations we studied frequently established workteams and improvement teams, without designing the mechanisms by which they could integrate with each other, or relate to the management structure of the organization. Sometimes this resulted in the teams "floating" without a clear sense of how their mission relates to the rest of the organization and without feedback or accountability. An example was an organization that established more than 100 teams, all of which were loosely chartered by the executive group, reported to no one, and were configured independently of one another to address specific organizational integration needs. The five-level management hierarchy was left untouched. Although team members could see the need to integrate their activities and even felt that their periodic meetings were good coordinating opportunities, the teams were frustrated by the confusion and the amount of uncoordinated activity that was occurring in the system as a whole.

Aligning the Contextual Systems. Most of the organizations we studied found their systems lagging behind their structural changes. This was manifestly true in the information systems and performance management arenas, but important lags also occurred in the clarification of decision-making responsibilities and in the communication systems for providing teams with relevant task-related information. These systems are key enablers of the processes required to support team-based performance. Because a key principle of the team-based organization is that resolving issues, coordinating, and decision making will be done laterally; the organization is more dependent on these processes than is true in a traditional hierarchical organization. The organization cannot rely on the hierarchy to catch and correct poor decisions that are made at lower levels because the system is not designed for multiple hierarchical reviews. Teams without good information about strategic priorities or performance, for example, have difficulty making high quality

decisions. Individuals who are placed in teams but receive direction and review from a functional manager almost always report that they experience conflicting direction and priorities.

II. Issues in Enabling and Facilitating the Vast Amount of Learning That is Required

There are three aspects of this learning challenge. They are as follows:

Developing Team and Management Capabilities. A number of organizations felt they had underestimated the amount of help that team members and managers require to learn the new behaviors to operate in a team-based organization. They also reported that placing individuals in classroom training situations was often inadequate. Teams, not just individuals, needed to be developed. A number of organizations assumed that because their employees were highly trained specialists, they already knew how to work in groups. In fact, teams composed of individuals from multiple specialties require the most process support because of the difficulty of integrating across discipline "throughtworlds" (Dougherty, 1992; Donnellon, forthcoming). Management teams frequently received little team development because the organizations assumed that they had developed team skills through their management experience. It is hard to overestimate the difference between managing teams and managing individuals, and between being an individual manager and being a member of a team that is managing other teams.

Developing Design Expertise to Enable Teams and Business Units to Effectively Self-Design Performing Units. Several of our organizations reported that a lack of design tools and frameworks for their teams was impending their transition. This issue arises because each team-based organization is custom designed to fit the work and strategy of the organization. It is compounded by the fact that many varied performing strategies to accomplish their charters. Further compounding the issue is the dynamic nature of the constellation of teams, meaning that performing units will be designing and

redesigning themselves through time. Knowledge of the design principles of the traditional organization was implicit: People knew the principles of chain of command, rules and procedures, reporting and review because their working careers unfolded in this well structured context. Business unit and corporate design was the purview of top management, often working with staff or external experts. There was no felt need for design knowledge to be possessed throughout the organization.

The design principles of team-based organizations are contingent, multi-dimensional, and involve complex trade-offs. Appropriate design depends on analysis of process (Hammer and Champy, 1993; Davenport, 1993), deliberation and contention (Pava, 1983), and work interdependence. Team performance strategy includes issues of task and process. In a dynamic environment, the organization cannot afford all of its performing units to be dependent on staff specialists for design and development.

Dealing with the Culture and Deep-Seated Beliefs. Large, established organizations have cultures that translate into unconscious behavior and deeply held assumptions and beliefs. The traditional hierarchical organization context has determined what is necessary for success. Success and failure have reinforced beliefs and assumptions about the best way to operate in the organization. Systems have been developed to support the old ways of behaving. Team-based organizations in our study were struggling with these ingrained beliefs. For example, one organization had established, trained, chartered and developed new product development teams, only to find that key organizational participants' belief systems were working against team performance. The engineering director, for example, shared his belief that a few engineers did most of the meaningful work in the organization, which led to his singling them out for special tasks, dealing with them individually about team issues, and inordinately rewarding them through the merit compensation system. Changing deep-seated beliefs and behaviors requires creating a rich learning environment that continuously questions ingrained beliefs as well as removing the features in the old organization that reinforce them.

III. Issues in Sequencing and Managing the Multiple Aspects of the Transition

These transitional issues are a direct result of the pervasiveness of the change and the sheer number of aspects of the organization that have to be redesigned and implemented as well as the amount of learning required to effect such deep change. As we have established above, almost all sub-systems of the organization have to be redesigned and implemented. Each performing unit has to design itself and its performance strategies for effective performance. These organizations were struggling with several trade-offs in this arena:

Gradual vs. Dramatic Change. Most of the organizations in our study began with the implementation of teams, and planned to gradually put the whole system in place. In part this was a pragmatic decision based on the fact that they did not have a complete image of a team-based organization nor an understanding of how key the context is to the ability of teams to function. Other pragmatic considerations pertained to the supervisory personnel they had in place. Some organizations based their decision to proceed slowly on a desire to have teams become effective before being cut loose from supervisors. Others did so on a desire to keep supervisors on the payroll and lose them by attrition rather than by eliminating their positions. One organization tried the gradual approach but in their next iteration went to the full-fledged system because they found that behavior did not change as long as the old management and supervisory structure was in place.

A related issue is whether to start in a small part of the organization and proceed gradually to implement throughout, or whether to convert the entire organization at once. Organizations that started in pockets could learn by early implementations and become better at supporting later ones. On the other hand, one organization found that dissemination was not as easy as it had hoped, and that difficulties in early sites worked against enthusiasm for further change. A practical limitation on another organization's

ability to implement broadly was the lack of availability of support resources to help develop the performing units.

Starting with Capability Development vs. Starting with Structural Change. Some organizations we studied conducted broad training and orientation before implementing teams. Most, however, implemented the teams and then discovered the amount of help they needed. None were able to develop new systems such as information systems and performance management systems prior to team implementation, although some said they wished that these had been in place because the organization had difficulty making a compelling case to its employees for the serious intent to establish a new mode of operation in the absence of these systems. In one organization the general manager admitted that "we implemented the teams before we had the wherewithal to support them, and now we're racing against time to see if we can get the supports in place before everyone reverts to the old way of doing things."

In all eleven organizations, insufficient management skills were a key impediment to the transition. Although most organizations wished they had done more extensive training of managers, the reality is that even with such training, the transition for managers is difficult and occurs gradually. One organization hired a personal coach for the manager who was ironically the most avid champion of teaming. Another organization's solution to the management skills issue was not to train managers. Rather, they eliminated most management positions, kept the few managers who were already effective in dealing with teams and participating in teams, and provided extensive development help to the teams themselves.

Process vs. Task. This issue arises because of the learning intensity of the transition. Learning requires discussion and reflection on the relationship between action and outcome (Shaw and Perkins, 1992) dialogue about and reflection on the organizational system (Senge, 1990; Watkins and Marsick, 1993), and the integration of knowledge of people from different disciplines (Tenkasi, forthcoming). These are activities that are

tremendously time-consuming, but underpin the ability of an organization to arrive at a shared understanding of a new way of organizing and performing (Mohrman, Cohen and Mohrman, forthcoming), and to institutionalize new practices.

Clearly the organization cannot achieve pervasive and deep change without such learning processes. The questions these organizations were facing were how to create adequate time, when such learning activities should occur, and how to carry out such learning processes while also trying to perform the task in an altered organization full of new challenges. In some organizations, groups were spending inordinate amounts of time in unstructured and unfacilitated dialogue. In others, the learning requirement was being completely overlooked, and new structures and approaches were being mechanistically implemented and existed in tandem with old ways of "really getting things done".

Summary

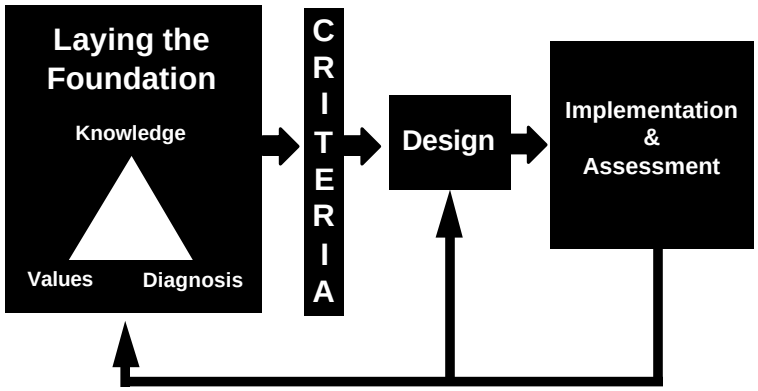
These three kinds of transition issues reflect the issues that are integral to a team-based organization. Team-based organizations, as dynamic configurations, face the need to continually redesign and align their various sub-systems and multiple systems levels as strategy and task change. They face the need to support much higher levels of learning because of the increased involvement of team members in lateral integration and decision-making and because of the learning required to continually improve organizational approaches. In addition, they face the ongoing sequencing decisions inherent in flexibility and rapid change in making strategic and operational adjustments to the environment. Such ongoing systemic readjustment and realignment is best accomplished if the organization not only has design expertise, but also has in mind a process map for managing ongoing redesign.

Self-Designing Team-Based Organizations

Self-designing a team-based organization requires dealing with the complexities implied in the team-based organization model. It requires nested hierarchical design processes in which multiple systems levels design themselves so that an overarching design framework is created by groups dealing with the broader scope within which units at narrower scope can design themselves. It requires lateral design processes as well so that co-performing units can design their interfaces. Contextual systems have to be designed to support the operations of the various performing units. Learning processes must be in place to generate a shared understanding among organizational members about what the organization is trying to accomplish and how it is intended to operate.

Figure 2 presents a general process map of such a large-scale transition that was developed based on studies of large-scale transitions of many kinds (from Mohrman and Cummings, 1989). Such transitions are frequently spearheaded by a design team; however, the design team works interactively with the rest of the organization to involve other members, take advantage of their perspectives, and create learning opportunities. Furthermore, the authority to redesign an organization lies with management. Effective

Figure 2: Self Design Model



Adapted from Mohrman and Cummings (1989).

design teams bring top management along, since they are inevitably agents of top management.

Laying the Foundation

The sequence starts with *laying the foundation* for change through activities that get people involved in developing a shared understanding of what the organization is trying to accomplish. The technical task at this stage is the identification of criteria that will guide the design process and be used to evaluate the new design once it is up and running. From a process viewpoint, this stage is geared to create a shared understanding within the organization about the need for new approaches and the outcomes the organization is pursuing. Faster time-to-market, responsiveness to customers, quality improvement, innovation and cost improvement are often the ultimate business criteria for team organizations. Better integration of technical performers, quicker decisions, elimination of unnecessary procedures, and increased accountability for performance are frequent process criteria.

Laying the foundation entails determining the valued outcomes based on the organization's strategy and its strengths and weaknesses. This is both a strategic and a political task that involves the resolution of contention among various participants. Diagnosing current capabilities and performance levels and identifying gaps between the present and desired outcomes help establish the need for change. Another activity that lays the foundation is acquiring knowledge that extends peoples' perspectives, makes them aware of different approaches, and provides tools to help envision and design organizational changes. Being exposed to other organizations already using teams and learning the basics of organizing by teams are examples of knowledge generating activities. Learning occurs best when action-outcome relationships are examined (Shaw and Perkins, 1992), when reflection and exposure to a wider set of options leads to the identification of new approaches, and when ideas are shared, disseminated, and collectively deliberated.

The combination of identification of valued outcomes, the determination of the capabilities that the organization needs to develop, and the acquisition of knowledge about alternatives and tools provide a foundation for establishing clear change criteria to guide the design activities.

A number of the organizations we studied had identified valued outcomes, but frequently this was done by a very few managers at the top. The acquisition of knowledge, on the other hand, was frequently carried out by the design team, and not by the executive group, and consequently executive management often had only a superficial understanding of the change they were "leading". Many of the organizations had not conducted a serious diagnosis of current capabilities and weaknesses. This worked against the development of a shared understanding of the need for change.

The activities used to lay the foundation are critical to establishing shared understanding, and to starting organizational members in the dynamics of change. Tichy and Devanna (1985), for example, have postulated three stages of transition: acknowledging the need for change and letting go of the past; envisioning a new way of doing things; and implementing change. Organizations that skip the foundation laying activities do not achieve the learning necessary to proceed with the implementation of large-scale change, nor do they begin to work through the front end dynamics of such change. At least two organizations we studied had proceeded directly to the design step without any activities to lay the foundation for change. They found themselves circling back to the foundation laying activities after aborted or ineffective attempts to implement teams.

Design

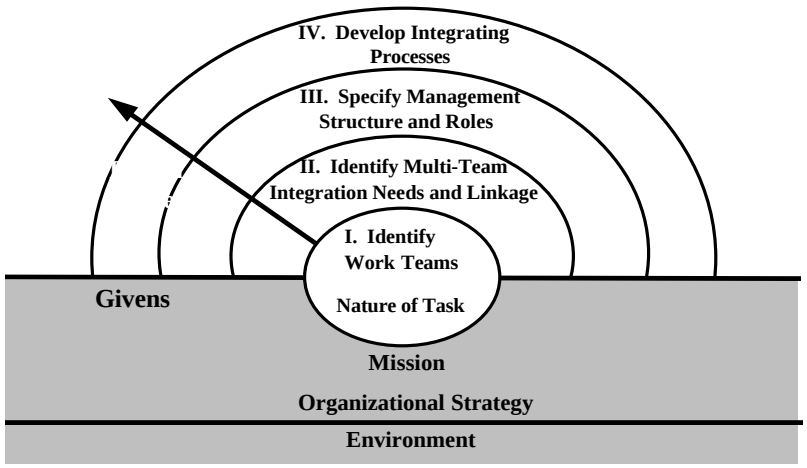
The *design* process is based on the criteria that were generated in the foundation stage. Design must occur within the framework established by the criteria in order for the organization to learn how to operate differently. Learning occurs best when there is a clear

sense of outcomes or objectives to frame the reflection and design activities (Shaw and Perkins, 1992). The criteria are important touchstones during the design and implementation activities. Initial design activities generate the broad outlines of the design of a team-based organization.

Design requires methods for generating and organizing diverse information and perspectives, for achieving richer, systemic views of the system, and for evaluating alternatives and arriving at consensus. This is the stage at which creative thinking occurs (eg., regarding the processes of the organization) and design trade-offs are made (eg., between functional, project, or customer oriented units).

The design process is aided by tools that help the design team accomplish this complex learning and information processing task. Figure 3 illustrates a sequence for the design of a team-based organization that was generated based on our studies of organizations making this transition (Mohrman, Cohen and Mohrman, forthcoming). It is supplied as an example of a heuristic roadmap that helps array complex cognitions. This paper will not go into the details of this sequence or the underlying rationale or enter a debate about whether it is the right sequence. It is merely an exemplar of a design tool. Other design tools will be needed at different points in this overall design sequence. For example, the determination of

Figure 3: A Conceptual Sequence for Designing Team-Based Organizations



Adapted from Mohrman, Cohen, and Mohrman (forthcoming).

appropriate work teams (Step 1 in figure 3) benefits from systematic process analysis, deliberations analysis and work interdependence analysis. Tools are available in the literature to support a design team in conducting each of these analyses.

An important aspect of this kind of fundamental change is that it is highly unlikely that the initial design will be completely right. Furthermore, the amount of needed change is so pervasive that the initial design will certainly not be complete. A design team may be able to generate very general specifications for most of the sub-systems of the organization, but it will not be able to generate an implementable design for them all nor to generate a design for each performing unit. The design team may generate a basic structural design with just enough specificity for implementation to begin. This structural design is minimally specified, enabling each performing unit to flesh out the details of its own design, thereby tailoring design to task and developing a sense of understanding and ownership of the design. In other areas, the design team may simply specify general guidelines, such as the need for performance management practices to be developed for teams, or the need to develop a distributed information system that allows members of various teams to get on-line customer data. Thus, the design team sets in motion an array of designing activities, and potentially of sub-design teams.

Implementation

The design activities should optimally create a general design that includes all the design features that constitute a team-based organization, so that people implementing change can image a different system and begin to develop a shared understanding of the end-state. However, as mentioned in the previous section, the needed changes are so pervasive that simultaneous implementation of all aspects of the organization is not possible.

An implementation plan is required that determines where to start, how much change activity can be sustained at once, and how to sequence the change. This plan will

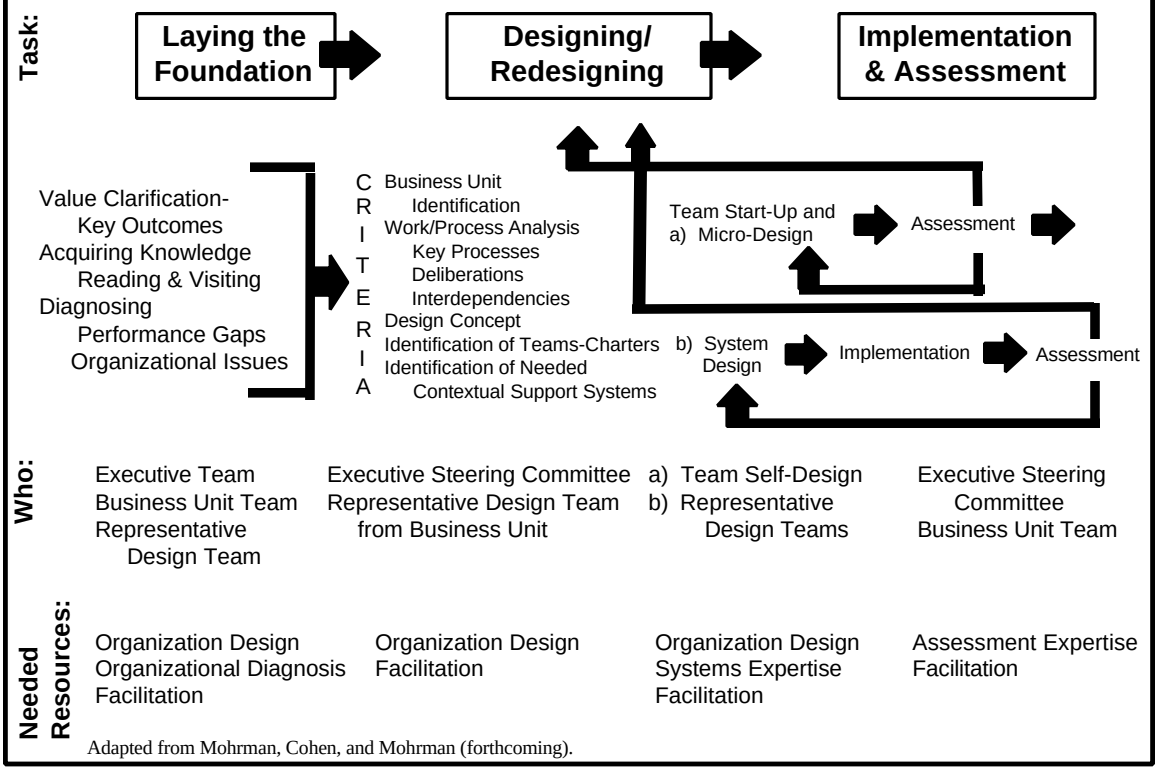
be based on pragmatism (where is greatest readiness) and leverage (where can we establish the most momentum and progress to underpin the ongoing change and learning process? The sequence of design considerations in Figure 3 describe a way of systematically thinking through the design components that need to be in place. Implementation may follow a different route. For example, the organization may develop its information systems before implementing teams. It may put a few pilot teams in place to stimulate learning while developing the support systems prior to broad implementation. The design of the implementation process is an explicit activity that needs to be carried out to support self-design. Too frequently the design is simply "announced", and implementation occurs through unplanned fits and starts if at all. The organization relies on the goodwill of organizational members to take the plan and turn it into a new way of doing business. This is a task they may be very ill-equipped to accomplish no matter how much good will is present, and good will is often in short supply when people are being asked to make fundamental changes in their activities, behaviors, and roles.

Because the design that emanates from the design team is never complete and almost never completely right, large-scale change requires that design be followed by an iterative process of implementation and assessment, which is carried out in an action learning mode (Lewin, 1951). As action is taken to implement the design, data are regularly collected to determine progress. Questions are asked and dialogues occur about whether the design is being implemented as intended, and what is required to aid implementation. Are additional design features needed? Should the design be changed? Then plans are made to supplement the design and/or the implementation support in the organization. The iterative process continues as more and more features of the design become "fleshed out". Assessment is critical in facilitating accelerated organizational learning, for it actively seeks out problems and anomalies that need attention, creates shared awareness in the system about how things are going, and stimulates dialogue and reflection.

Figure 4 illustrates a more detailed roadmap for the self-design process. It illustrates the staged design process. A representative business unit design team generates broad organizational specifications, and spawns self-design activities in each performing unit and at the system-wide level for organizational systems such as information and human resource practices that are required to support the team-based organization . Learning and designing occur at many locuses in the organization, and the design team takes responsibility for orchestrating the learning and dissemination process, and creating the organizational dialogues and reflection required for correction and improvement.

Although the design team can orchestrate the process, leadership in learning and changing needs to be exerted by the management of the business unit and the executive

Figure 4: Detailed Transition Model



Adapted from Mohrman, Cohen, and Mohrman (forthcoming).

group of the organization. Ongoing change, learning activities, and the design and implementation of new features require allocation of resources. Furthermore, new norms and behaviors that are modeled in the top management team motivate change throughout the

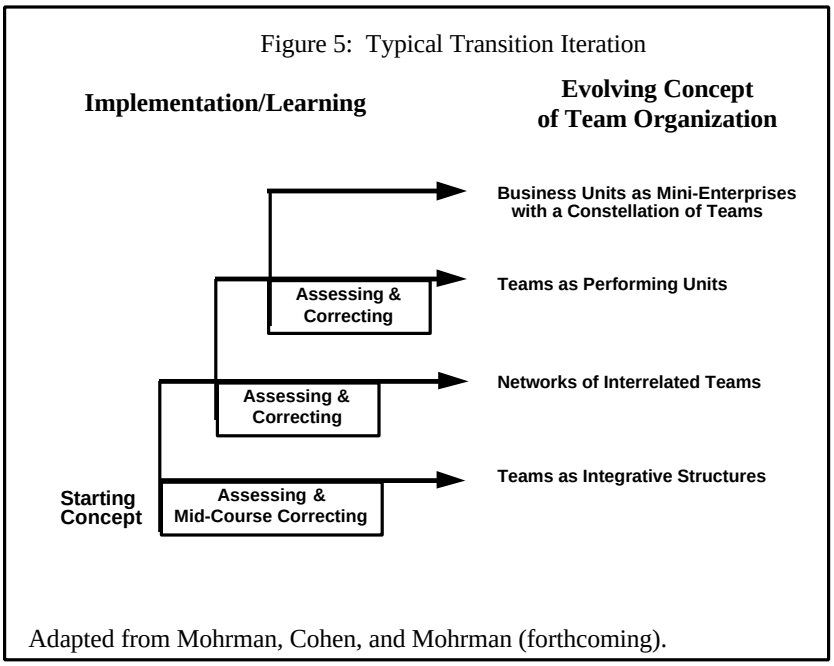
organization. Unchanged behavior at that level impedes change The organizations that we studied that had the most accelerated learning and implementation of their team-based organizations were those in which top management was active in the designing and learning processes. Top management needs to be an integral part of the organizational dialogue that results in a new shared understanding within the organization, not simply identify strategic direction.

The bottom of Figure 4 identifies parties key to the enactment of the self-design steps. Top management is key to laying the foundation, designing the organizational framework, and spearheading the learning process. Some design, implementation and learning activities occur within teams and others at the business unit level and/or organization-wide. Figure 4 also identifies some of the resource support, in the form of expertise, that is required to support a self-design process.

Iteration

As with all learning processes, the action learning self-design sequence described above will lead not only to change and to a development of shared understanding, but also to an evolution in the depth of understanding by organizational members of what they are trying to accomplish and a richer image of their organization. Figure 5 illustrates the progression that occurred in two of the companies we studied in their understanding of what they meant when they said they were moving to a "team-based organization". They started out with a relatively simple conceptualization: that they would establish teams to integrate the work of various contributors whose work had implications for one another and for the ability to deliver value to the customer. To realize this vision, they established teams. After an early assessment, they realized that they had not planned for dealing with interdependencies among teams and between the levels of the system. Their image of the team-based organization evolved to a conceptualization of a network of teams. Integrating mechanisms were added. A later assessment yielded the learning that individuals were not fully supporting the teams on which they served because their functional bosses were treating team involvement as an "extra" part of the job. The organizations then seriously

Figure 5: Typical Transition Iteration



Adapted from Mohrman, Cohen, and Mohrman (forthcoming).

grappled with the meaning of "teams as performing units". They developed team performance management tools, changed the reporting of the teams, and fundamentally altered the role and reduced the number of functional managers.

In a third iteration, the organization started to move to the clustering of related teams into mini-businesses (small measurable business units within the larger organization). To hold these business units accountable for overall performance, they had to move some capabilities into the teams that had formerly been centralized resources. For example, in one aerospace firm, marketers were placed in program teams in an effort to make each major program a business unit.

When these organizations embarked on this journey, they had not pictured themselves as moving to mini-businesses. As they learned more and more about what this transition entailed, their understanding evolved. The evolution occurred through periodic assessments, and broad dialogue and learning within the management team and among organizational members at all levels.

Conclusion

A team-based organization represents a major departure from the hierarchical, line and box organization. The large-scale change that is required entails deep change in which organizational members develop new ways of understanding, imaging and operating within the organization. It is pervasive change, that leaves no sub-systems untouched. It happens at multiple systems levels. Team-based organizations are custom designed because the optimal configuration of teams depends on the work of the organization. Furthermore, such organizations are dynamic and ongoing self-design is required.

Immense amounts of learning are required to support transition of this magnitude. Furthermore, learning is required to support the ongoing functioning of the organization. The change process must be a learning process, rich in dialogue, reflection, assessment, knowledge acquisition, value determination, and alternative generation.

As the organization goes through iterations of change, its members will develop new understandings of the target state, and a richer image of their organization.

The self-design model described initially by Mohrman and Cummings (1989), but similar in nature to many other models of change and transformation, provides a roadmap to guide the learning activities. It is an iterative model that consists of three stages: laying the foundation, designing, and implementing and assessing. Self-design activities occur at multiple systems levels, and learning needs to be both distributed and integrated. Spearheading the learning and self-design processes of the organization is a key task of top management in the transition.

Organizations that are path-breaking in establishing new organizational forms frequently cannot image the endstate, because they are literally forging a new path and discovering their destination. They proceed through interactions to enrich their images of the kind of organization they are building. As more exemplars appear, and more systematic pictures of new organizational forms are documented, it may become possible for a richer image to guide the transition from the beginning. Design tools will emerge, nevertheless, the transition is so deep and so pervasive that each organization will have to experience the learning process anew.

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