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**Organizational Change  
and Learning**

**CEO Publication  
G 93-4 (224)**

**Susan Albers Mohrman  
Allan M. Mohrman, Jr.  
University of Southern California**

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**Center for Effective Organizations - School of Business Administration  
University of Southern California - Los Angeles, CA 90089-1421 (213)743-8765**

## Organizational Change and Learning

History books will describe the final two decades of the millennium as the period during which new organizational forms evolved. These forms are suited to the global economy, and the post industrial, information - rich world of computerization. Weberian bureaucratic design principles and Tayloristic work design are subsumed within a set of design principles that enable simultaneous flexibility and efficiency. The changing geopolitical, world financial, and technological context within which organizations function pose a never-ending barrage of challenges to adapt and to learn new ways of functioning.

Organizational environments have become less benign, more complex, more interconnected, and more dynamic (Mitroff, 1988). These very conditions pose the need for change and at the same time make it difficult to learn and change by overloading the information processing capabilities of organizational members. Consequently, it is of critical importance to understand how organizations learn and how they change. It is important to the survival of organizations that they become effective learners, and that they are able to adapt to the rapidly changing conditions in their environment and to generate the innovations that will give them a competitive advantage and allow them to survive.

The task facing existing organizations goes deeper than a simple expansion of focus to include innovation and problem-solving. Certain organizational design features foster innovation, learning and change. These design features differ from the traditional bureaucratic design that has been "perfected" during this century. Organizations that have been designed for stability actually block the forces for change, and the behavior patterns they shape stifle learning (Argyris and Schon). For these organizations to become sufficiently agile for today's environment they must be able to redesign themselves--i.e., to undergo large-scale organizational change.

This chapter describes what we and other researchers have learned about organizational learning and large-scale organizational change. It then extrapolates from these learnings to predict the nature of the organization that will be able to withstand the winds of change that we believe will continue to characterize the coming decades in the world economy. Our belief, based on our research to date, is that simply to survive, organizations in the future will have to be able to innovate, to improve their processes, and to redesign themselves. Learnings about the organizational conditions that foster these three processes will be briefly described below.

### **Organizational Learning**

Organizing is the arrangement of the organizational elements (e.g., people, tools and information) required for the ongoing transformation of organizational inputs into the products and/or services that constitute the organizational outputs. Organizational elements must be organized to produce patterns of activity with requisite variety to respond to the variety of inputs received from the environment and to produce the variety of products and services required by the environment. The arrangement of organizational elements and the recurring patterns of organizational activities constitute the organization.

In addition to transforming inputs to outputs, patterns of activities are required that foster the ongoing capabilities of organizational elements. These are the activities that maintain the performance capabilities of human, technical and informational resources. In a dynamic environment, patterns of activities are also required that enable the organization to respond to changes in the environment. These patterns may enable the organization to process different inputs, to learn new ways of obtaining and securing inputs, or to respond to changing environmental demands for different products or services or for products or services that are more efficiently produced. Organizational learning occurs when the organization is able to alter its performance patterns to anticipate and/or respond to environmental change by adding new patterns of activity, deleting patterns that are not needed, and/or by developing better sensing mechanisms that allow the appropriate

matching of patterns of activity to particular environmental events. In order for an organization to learn, it must have patterns of activities that alter its own patterns of activity.

Some forms of organizational learning occur regularly in many organizations. Human resource development activities, strategic and other planning activities, and the introduction and mastering of new technologies for doing work are three common learning processes. However, they often do not fulfill their potential for true organizational learning.

Organizational learning is more than the sum of the learning of its parts--i.e., more than cumulated individual learning. The training and development of individuals with new skills, knowledge bases, theories and frameworks does not constitute organizational learning unless such individual learning is translated into altered organizational practices, policies, or design features. Individual learning is necessary but not sufficient for organizational learning. It may enable an individual to more effectively enact a role in the organization, but it will not lead to fundamentally altered patterns of behavior. Such behavior is "overdetermined" --i.e., it is held in place by a large number of organizational features. For example, many organizations have discovered that training in team skills is not a strong enough stimulus to change individualistic patterns of behavior that are held in place by job design, reward and appraisal practices, and by career systems.

Organizations are the collective and public embodiment of theories of action of organizational members. Building on the example above, individual oriented job designs, rewards, and appraisals reflect the fundamental beliefs (theories of action) of organizational members about performance and motivation. The organizational features that constitute the embodiment of the theories of action change through a process of collective inquiry that results in changes in individuals' theories of action, but also in their representation in a shared description of the organization, its patterns of activity and the elements that constitute it (Argyris and Schon, 1976). Teaching an individual teamwork skills will not

lead to a different way of enacting a role unless the organization collectively determines that organizational performance is achieved through teamwork, and changes the design features of the organization to promote it.

In recent years, the pace of change in organizational environments has led to an implicit recognition of the limitations of individual training and development as an approach to organizational learning. More and more companies are investing in training experiences that develop entire teams or intact units, or are blanketing the organization with development experiences designed to establish a common theory of action among organizational members. In addition, organizational change activities constitute a component of an increasing number of development experiences. As part of their development experiences, groups of employees are given the opportunity to design and introduce organizational changes that embody some of the theories that they are being taught.

Strategic planning is another organizational activity that can be a form of organizational learning. The systematic examination of the environment and determination of organizational approaches to obtaining needed inputs and targeting outputs addresses at a macro level the matching of appropriate patterns of activity to environmental conditions, trends and events. Unfortunately, many strategic planning exercises stop short of organizational learning because they specify only the outcome that is desired, and do not identify the patterns of organizational activity that will have to be established nor the organizational design features that will elicit the desired behaviors. They may specify, for example, that the firm must move away from customized, high margin products toward low cost consumer goods, but not identify the very fundamental changes that this requires in the assumptions and behavior patterns of organizational members and in organizational activity patterns.

The planning processes adopted by Shell Oil Corporation are often cited as having achieved the goal of "planning as learning". Through the development of scenarios about

the future rather than plans, senior managers expand their mental models of what is possible, and begin to identify the implications. Readiness for quick identification of needed organizational change is one product of this learning. Shell is cited as having in this way been able to respond more quickly than other oil companies to post-OPEC changes in the industry (de Geus, 1988).

The introduction of new technology generally stimulates some organizational learning. New transformation technologies such as improved machines, automation, information processing and telecommunications technology, and new organizational processes such as planning, coordinating, and control technologies make possible new patterns of activities and the elimination of old ones, and often require the reconfiguration of organizational elements. When done well, the organization learns to maximize the benefit it receives from the new technologies, and increased organizational effectiveness results. Because the patterns of activity required for organizational learning are often not in place, however, organizations frequently adopt new technologies with only partial learning and consequently only derive partial advantage from them. For example, many organizations have been slow to derive advantage from the integrative potential of CAD/CAM technology. The ultimate benefit of CAD/CAM technology comes from the simultaneous processing that is enabled when various organizational members share data bases and their work is linked in real time. Although many organizations have addressed the individual learning required for system utilization, they have not addressed the myriad of organizational elements required to foster integration between diverse elements of the organization, including organization structure, reward systems, and goals. Consequently, the potential benefit to the company in cost, time and design quality has often not been accrued (Adler, 1990).

In the future, the introduction of new organizational technology may require organizational learning. This is because the technologies that are currently being developed are so flexible that an organization will be able to tailor them to meet its needs, and can

continue to make modifications as organizational members discover ways to utilize the technologies more effectively (Seely Brown, 1991). Xerox's PARC research center, for example, is working on approaches to technology development in which organizations will be co-producers of the technologies they employ, and will have the capacity to continually reprogram that technology to fit developing needs.

Organizational learning requires that patterns of activity be established in the organization that enable collective examination of and changes to its own patterns of activity. The next section examines three approaches to organizational learning, and the organizational design features that foster each.

### **Three Kinds of Learning**

Organizations struggle with three kinds of organizational learning. The first is the learning that is entailed in the process of *innovation*, the "invention" and adoption of new processes, products and systems. The second kind of learning occurs in *organizational improvement processes*, through which organizations focus on increasing the effectiveness of their work processes. The third is the learning that guides the *redesign* of organizations and organizational subsystems to carry out new strategies and/or to embody new values, and to significantly improve organizational performance levels.

Although it is possible conceptually to distinguish between these three kinds of learning processes, they often coincide in practice. Improvement processes may lead to innovation or to organizational redesign. Innovation may necessitate organizational redesign. A new design may be an innovation. Nevertheless, the processes have a different focus and embody somewhat different logics.

**Innovation.** Innovation is a process that generates something new--products, applications, processes, practices or systems. It is a creative process of seeing new applications for existing knowledge, combining different bits of knowledge to create a new capability, or "inventing" new solutions. Innovation is not a well-controlled process; rather, it relies on the availability of slack resources, redundancy of effort, trial and error



and experimentation, freedom from constraints and specified ways of doing things, autonomy, and the ability to be playful. Consequently, a strong organizational control orientation is antithetical to innovation. Bureaucratic controls that limit action, slow down decision making and slant the organization away from risk-taking discourage innovation.

Although we tend to think of an innovation as the brainchild of an "inventor", behind most innovations is a team of people (Pinchot, 1985; Kanter, 1983; Quinn, 1980). They are involved in the many facets of the innovative process including securing resources, generating the ideas, developing the innovation and bringing it to market and/or implementing it in the organization. Innovations frequently emerge from the blending of multiple perspectives such as the customer's needs and the designer's knowledge base, or the combination of two different disciplines. Consequently, innovation is fostered in organizations that promote integration of multiple perspectives by linking the various parts of the organization more closely and by linking the organization more tightly to its customers.

Innovating often requires changing the mental models of people throughout the innovating organization. John Seely Brown (1990), for example, talks about numerous creative approaches used to open up the imaginations of people throughout Xerox to thinking about new models of the business that take advantage of the digital copying capabilities. These same techniques are now being used with customers as a way to fashion new technology to fit emerging ways of doing business.

Organizational factors that have been found to promote innovation include: rich networks of contacts that cut across functional boundaries; flat organizational structures that place innovating teams very close to ultimate decision makers; diversity of practices; availability of slack resources and redundancy of effort; long time horizons; rich connections between organizational members and external groups such as other knowledge generating groups and customers; incentives that promote risk taking; teamwork; an

orientation to the future; and a management style that promotes freedom within broad guidelines and a clear vision.

**Organizational Improvement.** The identification of areas where there are opportunities for enhancing performance and the application of problem solving processes to make improvements are standard aspects of how organizations learn. In recent years, a number of techniques have become relatively common in organizations. Survey feedback, for example, is a technique for collecting data that focuses problem-solving efforts on areas where there is general agreement that improvement is needed. Quality circles and other problem solving groups have been utilized to identify problem areas and to go through a systematic problem-solving process in addressing them. More recently, organizations are utilizing a "total quality" approach that includes the focus on controlling and improving the various processes that comprise the organization, the use of sophisticated analytical tools for identifying causes of process failure and generating solutions that will have the greatest impact on quality, and the focus on quality defined by the needs of the internal and external customer. (Deming, 1986; Juran, 1989).

Often organizational improvement methodologies involve the establishment of a parallel organization, including problem-solving groups such as quality improvement teams, task teams and steering committees. The parallel organization is intended to solve problems and introduce change. It supplements the regular hierarchical organizational structure, which has been designed to carry out the ongoing work of the organization, and operates on the principle of control, stability and maintenance of the status quo.

Our research has found that the parallel organization, although elegant in theory, often fails in practice (Lawler and Mohrman, 1985). It essentially is put into competition with the "regular" organization for scarce resources that are needed by both organizations--time, money, information and authority. Parallel structures are frequently seen as "extra", and the regular organization is often resistant to redeploying resources to support their activities and to implement the changes that result from their problem-solving. The

improvement process is frequently viewed as a nicety that gets set aside in the press to accomplish operating objectives. Furthermore, the changes that are suggested by the parallel structure are often perceived to tread on turf, and encounter resistance from those who see themselves as the keepers of the very processes that have been the target of the improvement efforts.

Successful parallel structures occur when they have clearly stated organizational objectives that relate to accepted business goals, when they utilize systematic and effective process analysis and group problem-solving, and when they build rich two-way linkages to the regular organization. In short, the parallel structure must be well integrated to the regular organization. In the Japanese production system, for example, small teams of workers are also given the opportunity to meet and solve problems, and individual discoveries about how to improve work processes are quickly systematized and disseminated (Galbraith, 1990). By continually pushing the limits of the organizational system, the Japanese are able to quickly surface problems and use their TQM tools to generate continuous improvement.

Organizational conditions that have been found to relate to successful use of parallel organizations for organizational improvement include: extensive communication and information sharing to ensure that participants in the parallel structure are well informed about the business and the organization they are trying to improve; training and education of organizational members in group processes, process and statistical analysis and other problem-solving techniques; adequate resources to support improvement processes and the implementation of change; altered role definitions of supervisors, managers and technical and support staff that include responsibility and accountability for supporting the activities of the parallel structures, for involving employees, and for implementing change; interfunctional cooperation and shared goals; orientation to internal and external customers; and incorporation of organizational improvement into the long and short term goals of the organization and the appraisal of performance.

Examination of the organizational conditions that foster innovation and organizational improvement processes reveals a number of factors in common. Both require a strong lateral integration including close cooperation between different specialties and subgroups and orientation toward internal and external customers. The objective of learning and change requires patience, and an adequate time horizon. The new roles of individuals in problem-solving, sponsoring, championing and managing change must be supported by incentives, goal-setting, appraisal and other human resource practices that shape such behavior. Quick and easy communication up and down the hierarchy and an open sharing of information about the business and its mission and objectives are required. The processes of learning, innovation and improvement must be seen as core organizational processes and be resourced and supported as such.

These conditions are not found in many American organizations today. Consequently, they will have to be developed in organizations that see learning, innovation, process improvements and performance enhancement as critical organizational capabilities in enacting their business strategies. As can be seen from a scan of the organizational conditions that foster innovation and organizational improvement processes (Table 1), every aspect of an organization's design must be aligned with the desired learning behaviors: people, structure, decision making and information systems, human resource practices, and technology. In order to become learning systems, many organizations will have to redesign themselves. This redesign process is itself an organizational learning process.

**Redesign.** Many forces in today's environment are demanding that organizations learn to increase their effectiveness. In addition, the changing nature of the economy is causing strategic redirection in many firms. The design of the organization affects the levels and types of performance that an organization can attain in implementing its strategy. Consequently, organizational design can be a competitive advantage. Design is used here in its broadest sense to include all the manipulatable aspects of the organization, including its

people, systems, processes and technology, in addition to its structure. Organizational design provides the framework for the recurring patterns of activity. In a rapidly changing world, where the landscape of the competitive marketplace changes frequently and competitive performance levels continue to escalate, the ability of an organization to redesign itself is also a competitive advantage. Mastery of self-design, the process by which an organization learns to change its design features in order to be more effective in its changing environment, will be a critical organizational capability. A key managerial role in the learning organization will be as designer of the organizational system that is capable of learning (Senge, 1990b).

In our work with organizations that are redesigning themselves to compete in the changing environment, we have observed that successful self-design is an iterative process that consists of the components illustrated in Figure 1 (Mohrman and Cummings, 1989). It is triggered by a change of strategy or a need for a markedly higher level of performance that can only be achieved by changing elements of the organization's design to support the new performances. The foundation for self-design includes a clarification of organizational values--of the valued human and business outcomes that the organization is striving to achieve. Some of these values come from the strategy; others are expressions of the values of organization members. Acquiring a knowledge base of the principles of organizational design and an awareness of alternative design possibilities provides a framework for the diagnosis of the current organization as compared with what is desired, and for the creative design process.

The creative tension that leads to learning comes from the gap between the realistic picture of reality (diagnosis) and the vision of a desirable future state (Senge, 1990a). The importance of vision has also been stressed by Tanaka (1991), who talks about the knowledge creating organization as one that continually renews itself as it recreates its world according to its vision or ideal.

**Table 1**  
**Organizational Conditions that Foster Innovation**  
**and Organizational Improvement**

**Innovation And Organizational Improvement**

Long-term orientation

Resource support

Organizational vision

Management support

Proximity to decision makers

Interfunctional networks and teamwork

Learning connections with  
the external environment

Incentives for risk and experimentation

Freedom from controls

Systematic group

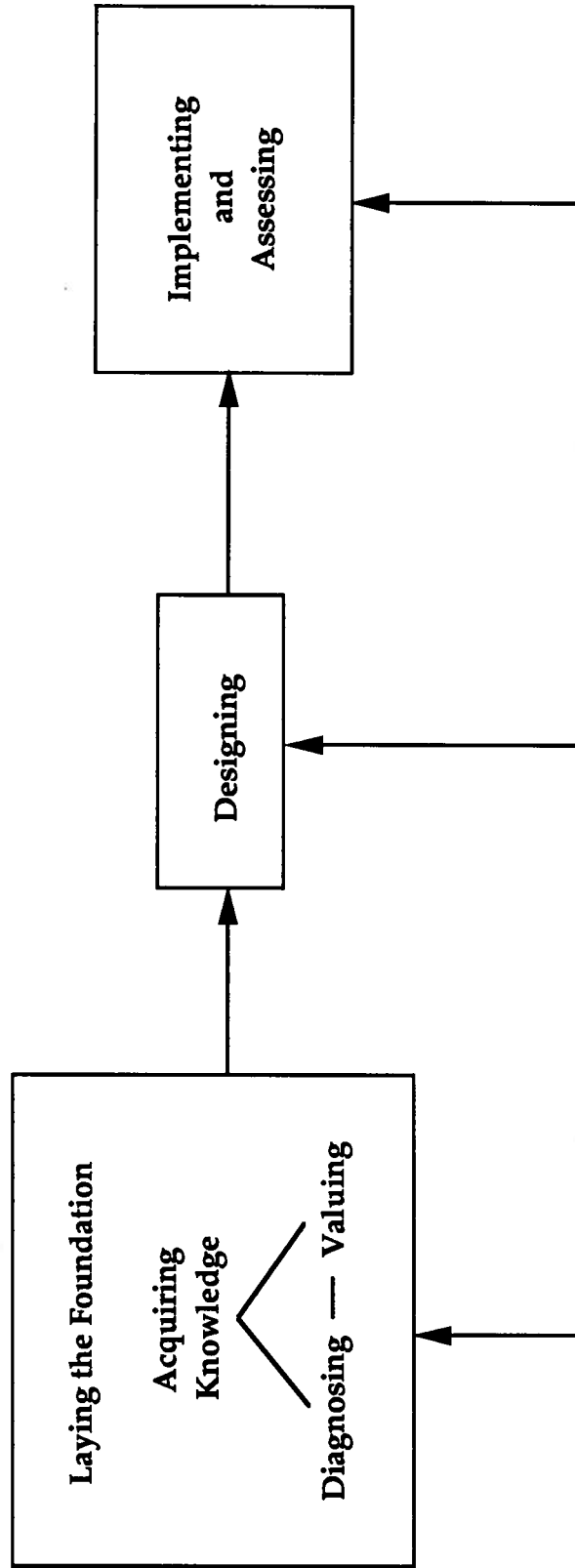
Playfulness

Process and analytical

Redundancy

Problem solving

Figure 1  
Self-Design



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From: Mohrman, S., A. and Cummings, T. G. *Self-Designing Organizations: Learning How to Create High Performance*. Reading, MA: Addison-Wesley, 1989.

The design process entails the minimum specification of the features of the new design, and reliance on the implementation process for learning to occur throughout the organization about how to fill in the detailed design features. Implementation is an action learning cycle of implementing a design, assessing how well it is working, and making design alterations. Through a series of iterations the organization refines and modifies its design to achieve greater effectiveness. Although portrayed as a neat logical sequence, the process is actually quite messy. At any time, there will be diagnostic activities, design activities, and implementation and assessment activities being carried out as different organizational subsystems are brought into alignment with the overall strategic direction, and different parts of the organization proceed through change processes at varying speeds. Changes such as Hewlett-Packard's shift from a products company to a systems company, or IBM's shift from an integrated monolith to smaller business lines occur through a gradual process by which all parts of the organization become redesigned to fit the new way of operating.

Organizational conditions that foster effective self-design include multi-stakeholder participation in design processes; ongoing assessment of the efficacy of organizational features; open information sharing and the use of data for problem identification and redesign rather than for punishment; redefinition of managerial jobs to include responsibility for design of their organizational unit; leadership that includes strategy clarification and the establishment of clear performance values that can guide organizational members in all organizational units; a view of structure and design as temporary; and an expectation by organizational members that continued employment demands ongoing personal learning and change.

Organizational redesign can include substantial change in the values that the organization is striving to achieve, the roles that people are expected to play, the assumptions and world view that govern behavior, and the concrete design features of the organization. Such change is truly large-scale in the sense that it is pervasive, involving



multiple aspects of the organization, and deep, involving change in fundamental aspects such as values (Mohrman et al, 1989). The next section provides a summary of the major learnings about such change processes that have emerged from our studies, and the consequences for the way change is managed.

### **Learnings About Large-Scale Organizational Change**

- I. Organizational change does not happen unless there is a compelling reason to change. The reason for change has to be linked closely to the business strategy although it can and should be accompanied by a strong people orientation. Our research has found that changes in human resource management practices are most likely to occur if they emanate from an articulation of the strategic needs of the organization rather than if they are the driver of the change process (Lawler, Ledford and Mohrman, 1989).
- II. Leadership is a critical factor in the change process. Change will not occur if there is not energy, guidance and commitment from the top of the organization. Part of the leadership role is articulating, or helping the organization to articulate, the compelling reasons.

One of the dilemmas of change leadership is that change will be continual and will most often be an adaptive response to changes that have occurred or are anticipated in the environment; yet organizational members look to the leader for a steady course that indicates that the "ship is not out of control". Change leadership entails being a continual catalyst for the change process by: formulating and updating a compelling change agenda; helping the organization envision the future; unleashing energy and resources to fuel the change process; and helping the organization experience change as success, not failure.

Change leadership must be diffused throughout the organization. Since change is frequently resisted, the development of a leadership network must be accomplished by aligning incentives, providing skills and tools for change, and utilizing the management succession system. It must clearly be in the best interests of people to

change, and they must be provided with information, skills and resources just as they are for other organizational responsibilities.

- III. Organizations are systems in which change in one aspect will beg change in other aspects. The system will be more effective to the extent that its various components fit with one another. Galbraith (1990) has pointed out, for example, that the strength of the Japanese production system lies in the complementarity of factory practices, the work system, and human resource policies, all of which support high performance and continuous improvement. Many of the kinds of changes being faced by organizations today require systemic realignment including: strategic redirections; globalization; introducing new technology; accomplishing performance increments beyond those that are achievable by "cleaning up" the system; and transitioning to a high-involvement culture. In such situations, *limited interventions will have limited impact*. Change involves organizational redesign, and design capabilities and processes have to be built into the organization.
- IV. Change has both a technical design aspect and an effective human process side. These two aspects are two sides of the change coin. Failure to progress in either area can prevent the change from happening. Attending to the system design issues of human resource management is necessary but insufficient for dealing with the human process issues. The management of change involves understanding and dealing with resistance, individual and collective learning, and the natural dynamics of transition. These processes of change can be facilitated by patterns of activity such as communication, process consultation, participation, and conflict resolution but they cannot be avoided.
- V. Major change alters the psychological contract of almost everyone in the organization (What am I expected to contribute in return for what outcomes?). It also involves a change in the way people understand their organization and the assumptions they make about what is desirable and undesirable, as well as qualitative change in skills

and behaviors. There will be people who are unable or unwilling to make the transition. Major change involves some turnover in personnel.

Managing the people side of change will involve developing an understanding of what is needed and expected and skills to deliver the new behavior, and reinforcing change when it occurs. It also entails the management of people for whom change is not forth-coming. These individuals must be managed in a way that does not undermine the learning norms that the organization is working to establish. This requires a good faith effort to help people change, a spelling out of consequences of not changing, and when possible allowing people to choose different roles if they do not believe they can change.

- VI. Change involves conflict. In fact, the essence of change is a process of resolution of tension and conflict within the system. Part of the energy for change is unleashed by the dynamic resolution of conflict between various stakeholders in the organization. This is the fundamental mechanism by which the assumptions of the status quo are challenged. Consequently, change involves establishing political mechanisms for stakeholders to resolve issues. This includes joint resolution between groups that have previously operated independently and the empowerment of stakeholders who have a different frame of reference from "the keepers of the status quo".
- VII. Change is not an orderly, controlled process. It involves iteration, messy encounters, resistance, conflict, and surprise. Although change can be partially planned, a great deal will be unplanned. Change will involve opportunistic events and responses to unanticipated consequences. Each change will make evident other opportunities and other needed changes.. A major objective of the change process is to develop the new organizational norms that enable organizational members to deal effectively with these aspects of change: complexity, ambiguity, disorder, frequent reordering and unplanned activity (disruption to plan). Fortunately, the norms required to deal with the inherently disorderly nature of large scale change are the same as those required

for ongoing organizational learning. Among the needed norms, values and assumptions are the following: learning from mistakes; borrowing ideas from each other; taking risks; tolerating and benefiting from diversity; and surfacing and dealing with conflict.

VIII. Change will be a continual fact of life for organizations in the coming decades. Much of the change will require the development of capabilities that the organization has never had before. This need for discontinuous change is fueled by rapid technological advances, the unfolding of the global economy, the increasingly heterogeneous workforce, changes in local and global financial, economic, and legal frameworks, complex environmental problems, rapidly shrinking timeframes and deregulation.

One new capability that will have to be developed is the capacity for organizations to change themselves. This will include but go beyond what is currently referred to as the "continuous improvement process", which is a means to improve existing activity cycles. The redesign process will involve the development of new processes and the realignment of organizational elements. The organization will have to become a learning community, capable of redesigning itself through time.

#### **Implications for the Organization of the Future**

We have argued that a viable organization in the coming decades will have to be good at the processes of innovation, process improvement, and self-design. In short, effective organizations will become effective learning communities. They will be effective at applying multiple perspectives and expertises to the complex problems and opportunities that confront them. During the 1980's a number of our best firms have had efforts underway in these directions. The total quality movement is one widespread indication of the pressing need of organizations to become competent at changing themselves. The large number of innovation studies and audits are another indication that there is already significant momentum in this direction.

Where is this leading? How will organizations look in the future? Extrapolating from the findings that have come from a decade of studying learning and change in organizations, we predict the following general characteristics of the learning organization.

*Organizational design will be understood to be a temporary configuration of components that will change as the organization's strategy and environment changes.*

Organizations will be much less geared to preserving stability and the status quo, and will come to see their systems and structures as strategic tools that can be altered to change the capabilities of the organization. Managing organizational design will be a key managerial competency.

*There will be a greatly increased, ongoing application of resources to the development of skills and knowledge throughout the organization.* Skills and knowledge will be moved downward in the organization, enabling those closest to the work to perform complex problem-solving. In addition, much more attention will be paid to developing breadth skills: to cross training and the lateral movement of individuals across various parts of the organization to facilitate the integration of perspectives in innovating, designing and solving problems. Individuals will secure their employment by increasing their value and flexibility to the company.

*Organizations will be flatter and more agile.* Layers of hierarchical and staff control that slow down the functioning of the organization inhibit learning and add costs will be reduced. In flatter organizations, broad guidelines and management by results will replace tight controls. Much of the skills and knowledge that are currently housed in specialized staff groups will be moved into line groups so that their decision making is informed by a rich constellation of perspectives. This will allow the application of local knowledge to the development of organizational systems and solutions. Wherever possible, organization units will become self-contained and self managing. Lateral movement of people will contribute to this mode of control and decision making.

*Organizations will become excellent at integrating a rich constellation of task teams, "overlay" organizations, and intergroup networks that complement the capabilities and offset the focus of the core structures of the organization.* This will enable the organization to address multiple simultaneous focuses (e.g., operating efficiently and improving; product focus and functional focus). It will also build in the bridges between these perspectives and their respective knowledge bases that enables the organization to learn and to address complex systemic issues.

*Organizations will be richly connected to a wide diversity of other organizations in the environment with whom they will learn and share learnings.* Consortia, joint ventures, university-industry alliances, and multi-organization symposia will continue to proliferate. Membership in these cooperative efforts will link organizations to the learning that is occurring in the larger environment. This will be important, given the speed at which learning is occurring and new knowledge is being proliferated. Individual organizational members will also have to build a rich personal network of contacts in order to keep their own knowledge and skills up-to-date and to be able to direct their own development.

*Organizations will foster diversity of practices and designs in order to seed the learning process and to enable various parts of the organization to adapt to the performance requirements that they face.* They will devote more time and attention to the diffusion process--the sharing of ideas and learnings across organizational units so that managers who are expected to manage continually improving systems will be exposed to new ideas and ways of doing things. There will be fewer attempts to "roll out" massive system-wide changes, and more effort to encourage units to continually redesign themselves to be more effective.

*The role of top management will be to formulate and communicate a clear vision of the organization's strategy and vision and to continually challenge the organization to achieve excellence in implementing the direction.* As a corollary, the

roles of managers throughout the organization will include the translation of the strategy and vision into terms that are meaningful to the units that they manage, to clarify the mission of their units, and to empower them to innovate, improve their processes and redesign to best implement their mission.

*The psychological contract of employment will irreversibly change.* First, organizations will become much more demanding places to work. Employees will be expected to do the work, think of ways to improve it, contribute to learning and change efforts, and to manage their own ongoing learning process. Second, organizations will be much more ambiguous places to work. Careers will not be well specified and secure. Individuals will have to plan their own development to maintain their flexibility and employability. The paternalistic era that was possible in the benevolent period of the 1950's and 1960's has ended, and individuals will have to learn to manage themselves and their careers. One possible scenario is that people will become in a sense "contractors" to their organization. They will be utilized where they have needed skills, and can expect to move from place to place in the organization as needs change. The flatter organization with less emphasis on vertical mobility will foster a new definition of career that is defined largely in terms of breadth and depth of skills rather than level in the organization.

## **Conclusion**

This chapter has argued that during the 1980s and 1990s, new organizational forms are evolving, that will be well adapted to a world that requires ongoing organizational learning and change. If our predictions about the learning organization of the future are correct, it will differ from the traditional bureaucratic form in fundamental ways. Not only will it house ongoing activity patterns to improve its processes and introduce innovation, but it will also have self-design capabilities, so that it can alter its own design features on an ongoing basis.

The large scale change process required for an organization to become a learning organization entails second order change (Bateson, 1972). Such change is not simply learning to do better what is already done (first order change), but entails a change in fundamental assumptions and organizing principles. For example, structures will be perceived as temporary, improvement and change activities will be seen as primary organizational tasks, and decision making will be intentionally political by the purposeful surfacing of conflict between different perspectives. The relationship between the individual and the organization will change in a fundamental way. As extreme competitive pressures continue to disrupt the paternalistic patterns of the last three decades, the onus will be placed on the individual to be a qualified, productive member of the workforce.

Adaptation to a rapidly changing environment requires flexibility and agility--the ability to rapidly learn how to produce new products and services, and to rapidly increase performance standards. In the new environment in which technology is readily copied, information transfers with great ease around the world, and geography is no barrier to market entry, the organization that learns how to execute effectively will survive.. This will require the ability to learn new activity patterns and discard those that no longer fit the circumstances. Learning will be the competitive advantage of the organization of the future.



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