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Future Trends in HRD, Learning Organizations, Change Management

In Search of the Future

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Organizations learn lessons of sustainability in a chaotic world.

If you realize that all things change, there is nothing you will try to hold onto. If you aren't afraid of dying, there is nothing you can't achieve.

Trying to control the future is like trying to take the master carpenter's place. When you handle the master carpenter's tools, chances are that you'll cut your hand.

—Lao-tsu, *Tao Te Ching*

Do you work in the belly of an organizational dinosaur? The average U.S. business survives only about 40 years. Many government agencies, though technically alive, function as though they folded years before. Now, complex and rapid changes in the world's economic and social climates heighten the threat to organizations' survival. Organizations that don't adapt to these changes will die.

Organizations that learn to search creatively for the future can transform themselves when they confront the chaos of constant change. Such organizations create sustainable futures by building visions, systems, and structures that not only weather change, but thrive on it.

All organized entities—businesses, government agencies, service organizations, and communities—confront the challenge of searching for a sustainable future. As organizations transform themselves, they will have to address the following issues:

Organizational structure. The traditional organization is vertically organized. Power vests at the top and spreads ever thinner through descending layers of management, staff, and—at the bottom, with the least power of all—frontline workers.

The new organization pushes power down and out among fewer, wider layers. Frontline workers play new roles as decision makers.

Empowered workers and teams. In the traditional organization, each employee performs only discrete tasks. Workers must meet minimum standards of performance.

In the new organization, cross-functional, self-managing teams design, produce, and deliver products or services. All team members share leadership roles and responsibilities. Workers perform multiple tasks. Teams set production goals and schedules, order their own materials, and hire new workers. Workers must meet world-class standards of performance.

Systems thinking. The traditional organization emphasizes bureaucracy, hierarchy, narrow job descriptions, policies and procedures, and distinct departments. The new organization emphasizes systems. It organizes work in ways that minimize bureaucracy and maximize performance. Workers eliminate inefficiencies through continuous-improvement processes. Engineers, planners, and accountants work side-by-side with production workers to facilitate quick solutions to problems and ensure high performance.

Ecosystem management. The traditional organization tended to view the ecosystem as a source of unlimited resources, and thought little about protecting the environment. The new organization views the natural environment as a partner and considers environmental sustainability essential to the future.

Quality focus. In the traditional organization, engineers and experts inspect the quality of the finished product. Organizations choose external suppliers based on price rather than quality.

In the new organization, quality control takes place at all stages of the production process. Workers evaluate and continuously improve

the quality of their work. Organizations cultivate long-term relationships with suppliers who deliver top-quality goods and services.

Customer service. In the traditional organization, only employees who had contact with customers were expected to provide customer service. Most employees did not serve any customers, beyond their bosses.

In the new organization, everyone learns who all of his or her customers are and how to meet their needs. Internal customers receive the same level of service as external customers. External customers often help the company develop and improve its products and services.

Flexibility. The traditional organization produced standardized products and services. New-product development was a lengthy and laborious process. The new organization speedily develops and delivers products and services, often tailoring them to customers' desires. Organizations replace their traditional stockpiles of inventory with just-in-time production methods.

Rewards. The traditional organization bases pay on length of service and views labor as a cost. Annual evaluations are formalities. They precede annual raises and often promotions as well. Employees do not own companies and rarely share in profits.

The new organization pays people based on their knowledge and skills and views labor as a competitive advantage. Teams evaluate their members based on their performance, and performance determines advancement and compensation.

Organizational learning. The traditional organization emphasizes technical training and directs most training at managers and professionals. Line workers receive only basic training on equipment operations. The new organization views the capacity to learn as a competitive advantage and views training as an investment strategy.

Organizational learning

In new organizations, individuals learn a wide range of technical and interactive skills and pursue continuous personal development. Similarly, work groups learn a wide range of skills for planning, organizing, and controlling their work. They also learn ways to interact with other work groups. The organization as a whole learns to think and act strategically in response to the ever-changing environment.

Systems thinker and futurist Eric Jantsch characterizes organizations that search for the future as learning organizations. In *The Self-Organizing Universe* (Pergamon Press, 1980), he writes that organizations do not learn by importing "strange knowledge" into their systems. Instead, the processes for learning are inherent within organizations; by learning to mobilize these processes, organizations can adapt to changes in the environment.

To create sustainable futures, organizations must master three interrelated types of learning processes:

THE NEW ORGANIZATION VIEWS TRAINING AS AN INVESTMENT STRATEGY

operational learning, systemic learning, and "transformative" learning.

Operational learning. Chris Argyris and Donald Schon describe operational learning as "single-loop learning." Operational learning forms the foundation of any work organization. Operational learning springs from an organization's efforts to improve its basic work processes. Put simply, we learn operationally when we try to do the best job possible for our customers and correct our mistakes. Today, many companies use continuous quality-improvement processes to develop employees' operational learning skills.

J. Redding and R. Catalanello, in *Strategic Readiness: The Making of the Learning Organization* (Jossey-Bass, 1994), offer a case study of operational learning at Motorola. This Baldrige-award-winning electronics manufacturer is approaching a milestone, the achievement of "six sigma"—less than 3.4 defects per million opportunities for error. It took Motorola 14 years to achieve this level of quality.

Recently, the company studied six sigma as a process of organization learning, noting key milestones, breakthroughs, and roadblocks. With new insights into its own learning processes, Motorola aims to reduce its corporate learning process by one half (from 14 years to 7) as it undertakes two new strategic initiatives: becoming a leader in integrating hardware and software, and entering the Eastern European market.

Systemic learning. Systemic learning focuses on the organization as a complex of interacting systems. Argyris and Schon describe systemic learning as "double-loop learning," because the learning addresses not only the work itself, but the fundamental assumptions that underpin the organization's systems and structures.

Systemic learning occurs when organizations detect and fix errors by modifying not only work procedures, but also organizational norms, policies, or objectives. Systemic learning also encompasses people's ability to reflect critically on the interaction of organizational systems and to focus on improving the performance of the whole organization rather than on improving single systems in isolation from one another.

Redding and Catalanello's case study of Royal Dutch/Shell offers an example of systemic learning. During the 1970s, Shell was considered a weak link in the petroleum industry. Several years ago, as part of its efforts to survive despite the uncertainties of the petroleum industry, the century-old Shell conducted a landmark study to discover how organizations can weather changes in their environments. The study looked carefully at 30 companies, all of which were founded more than 75 years ago. The study concluded that the firms persevered because of their capacities to absorb environmental activities and to respond appropriately.

As a result of this study, Shell decided that thriving in its own changing and even chaotic environment would depend on developing similar capacities. Shell aggressively took steps to transform its learning

abilities into a competitive advantage. The company gains an advantage through a process that enables its management teams to share their mental models of their company, their markets, and their competitors, and to alter these models as appropriate.

Arie P. de Geus, Shell's former head of planning, asserts that, "for this reason, we think of planning as learning and of corporate planning as institutional learning." Shell's strategy for organizational learning seems to work. In 1990, the company surpassed Exxon in total revenues to become the world's largest oil company.

Transformative learning. Transformative learning is the process of continuous development of the whole organization. Transformative learning incorporates operational and systemic learning into an ongoing process of evolutionary change. Argyris and Schon describe this as "deutero-learning":

"When an organization engages in deutero-learning, its members... reflect on and inquire into previous episodes of organizational learning, or failure to learn. They discover what they did that facilitated or inhibited learning, they invent new strategies for learning, they produce these strategies, and they evaluate and generalize what they have produced. The results become encoded in individual images and maps and are reflected in organizational learning practice."

(For a snapshot of transformative learning in action, see "The Transformation of JK Fibre," page 42.)

Evolutionary self-organization

New scientific discoveries about the way living systems evolve offer some practical guidelines for transformative organizational learning.

The laws of thermodynamics say that systems inevitably reach a state of static equilibrium. Then, entropy sets in. Think of a child's spinning top as it slows and eventually falls over. For the top to spin again, someone has to twist it.

Likewise, organizations gravitate to a state of equilibrium. As entropy takes hold, an organization spends more and more energy just maintaining the status quo, leaving less and less energy free for productive work.

But entropy does not seem to govern living systems. We see plants, animals, and whole ecosystems that have evolved over millions of years. Some human cultures have existed continuously for thousands of years. Why are they not trapped by entropy?

The theory of evolutionary self-organization offers some clues as to why living systems thrive while nonliving, mechanistic systems die. Nobel Laureate Ilya Prigogine discovered that living systems continuously renew themselves through processes of "spontaneous structuration." Information from the environment floods a living system, jarring it out of its state of equilibrium. The living system becomes disorganized and reconfigures itself into a more complex state that is better suited to the changed environment.

Three elements that lead to evolutionary self-organization are openness, non-equilibrium, and autocatalysis.

Openness. Living systems overcome entropy by developing a partnership with the environment—they import energy and export entropy, similar to the way plants breathe out oxygen and breathe in carbon dioxide.

In *Developing and Managing Open Organizations,* authors O. Mink, J. Schultz, and B. Mink (University Associates, 1979), describe the components of organizational openness as external responsiveness, internal responsiveness, and unity. An open

Creating the Future: How Organizations Are Meeting the Challenge

As global change increases in speed and complexity, all organizations confront the challenge of creating their futures. Here are some examples of ways organizations are meeting this challenge:

- A leading U.S. defense-research organization responded to dramatic post–Cold War challenges by transforming itself into a more flexible and participative organization and shifting its focus from the laboratory to the marketplace.
- Costa Rica used a management development program to transform its old, bureaucratic health-care delivery system to one based on teams, systems thinking, and continuous quality improvement.
- Primorski Sugar Corporation, a newly privatized Siberian sugar refinery, had a discouraging history of chronic problems, antiquated equipment, low employee productivity, and little leadership. A new director, selected by employees from outside the company, challenged entrenched managers and employees to create a true private enterprise or leave. Most left. Today, a new leadership team is transforming the old Soviet plant into a diversified world-class organization.
- The U.S. Department of Health and Human Services, with 140,000 employees and the third largest budget of all federal agencies, used strategic planning to prompt its employees to explore the value they place on their role as public servants, the responsibilities of public stewardship, and their capacity to influence the future direction of the agency.
- Brigham Young University's business school invented a new curriculum using a future-search conference in which major stakeholders participated. Faculty members usually resist new programs. But this time, the faculty voted to approve the new curriculum, with few abstentions and no opposition.
- Maliwada, an ancient, once-wealthy village in India, was impoverished. A team of community-development practitioners met with the village leaders to help them discover a shared vision for the future of their community. As villagers learned to reinvent their community, they started to let go of old class and cultural differences. With grassroots support, the community acquired a bank loan and government grant to build a dam, a brick factory, and a health clinic. Today, with the community once again prospering, Maliwada is teaching other villages how to replicate its model of development.

organization adapts to both internal and external environments while maintaining its own identity. Closed organizations, in contrast, maintain their identity by resisting change in their environments. And entropy is the price they pay.

This does not mean that living systems are randomly driven by environmental changes. In *Leadership and the New Science* (Berrett-Koehler, 1992), Margaret Wheatley notes that openness to the environment paradoxically creates a greater sense of identity. Over time, what dominates the system is not the environment but the self-organizing dynamics of the system itself.

Environmental fluctuations may originate randomly, but the changes the fluctuations cause within the system are not purely random. When environmental disturbances signal a need for change, the system changes in a way that sustains its consistency. This self-reference is what facilitates orderly change in turbulent environments. "In human organizations, a clear sense of identity—of the values, traditions, aspirations, competencies, and culture that guide the operation—is the real source of independence from the environment," Wheatley writes.

Royal Dutch/Shell, in its commitment to organizational learning, stresses openness to the environment. Shell intentionally devised learning strategies that enable the company to respond quickly and effectively to changes in local operating environments. "While its chief competitors, such as the giant Exxon corporation, have become increasingly centralized, Shell has systematically given more and more autonomy to its 260 operating divisions, promoting quick action and experimentation," note Redding and Catalanello.

Non-equilibrium. Nonliving systems become trapped by entropy because they achieve equilibrium. Living systems, in contrast, thrive in a state of non-equilibrium—they constantly respond to local fluctuations in their environment. Paradoxically, over the long haul, the instability of living systems produces stability.

Destabilization, then, holds the key to breaking free of equilibrium.

Environmental disturbances create disequilibrium, and disequilibrium leads to renewal. By maintaining fluid connections between the disequilibrium in their internal and external environments, living systems change, but survive. Conversely, systems that try to maintain their equilibrium in a changing environment protect themselves in the short term but ultimately invite entropy to set in.

Consider the difficulties of IBM. With its rigid corporate structure and culture, IBM dominated the computer industry for many years. What happened? IBM learned late that stability does not represent a strategic advantage in a changing environment.

More nimble upstarts, in contrast, continuously reinvented themselves in response to their industry's constant mutations.

Shell continuously renews itself by purposefully fostering internal

The Transformation of JK Fibre

When the JK Fibre plant opened in 1989 in Jhalawar, India, to manufacture acrylic fiber, it was the realization of plant director Rampati Singhania's vision. Singhania wanted to create a company culture of openness, equitable relationships, and minimal bureaucracy, writes J. Troxel in *Participation Works: Business Cases From Around the World.*

Consultants helped Singhania design a plant that put into practice new thinking about open organizations and participative management.

Singhania introduced these organizational concepts into a traditional Indian work culture deeply and firmly rooted in hierarchy, guardedness, and bureaucracy. His informal yet professional style set the tone for the whole organization.

The new plant featured open work space, with cubicles instead of closed offices. Departments flowed together, not divided by walls. Managers—including Singhania—sat in cubicles at the center of their teams' work spaces, giving all employees access to them. As in Japan, work teams started every morning with physical exercises. And everyone ate in the cafeteria, regardless of rank.

Employees were responsible for their own quality inspection, maintenance, and housekeeping. The managers filled out their own forms and kept their own files. As much as possible, communication took place face-to-face, with few memos and little paper.

Openness extended even to the compensation system, with salaries posted on public bulletin boards. Most radical of all for an Indian company was the gain-sharing incentive plan Singhania introduced for all employees. At the close of each quarter, an independent agency conducted a survey asking customers to rate JK Fibre's performance on each factor. Each employee received a gain-sharing award based on the results. The awards accounted for a large part of employees' salaries.

Did the forward-looking JK Fibre become a role model for Indian companies to emulate? It did not, reports Troxel. Two-and-a-half years after the plant's opening, production was at 50 percent of capacity, quality was poor, and morale was abysmal. Worst of all, customers were leaving in droves. JK Fibre was losing money fast, and its parent company was about to cut its losses in this apparently failed experiment. In January 1992, the plant literally ground to a halt, and the managers despaired.

After talking with JK Fibre managers and staff and reflecting on the situation, the consultants who helped with the plant's original design presented the managers with a proposal for a whole-system transformation of JK Fibre. The management team accepted the proposal and spent five days with the consultants to form a coordinated plan of action.

During the retreat, consultants led the managers on a comprehensive search for a sustainable future, incorporating organizational planning, team building, and personal development.

The first challenge facing the managers was coming up with a way to get the plant running again. The parent company would not provide any more capital, and no banks would lend to the plant. Working with the consultants, the managers eventually devised a far-fetched but intriguing plan: The managers would seek financing from their customers—the very customers who complained about poor quality and late deliveries.

"Can you imagine what it was like to go back to our customers and now ask for money?" recalled one manager. But it was their only hope. The managers decided to convince their customers that it was a new day for JK Fibre and that they had a strategic development plan they could and would deliver on. In groups of two and three they visited every customer.

It worked. With just enough cash advances to purchase raw materials, they started up the plant two weeks to the day after creating the plan.

By May, the plant was producing an average of 30 tons a day, about the level of production before the January shutdown. Quality was uneven, but it was improving. By midyear, the plant was producing more than 50 tons a day, and quality was still improving. In October, the plant reached full capacity, producing 60 tons a day. Quality was at an all-time high.

Spontaneous dancing broke out on the shop floor when people heard the news. The managers ordered an ice-cream truck into the factory for a celebration. The truck remained for 24 hours, time enough for all three shifts to celebrate.

How did JK Fibre produce such a dramatic turnaround in just seven months? In that five-day planning session, the managers went through a process of deep reflection to discover the mental models that were preventing them from achieving success. Once the managers recognized the contradictions that blocked their success, they were able to transform the company and achieve their vision using a three-pronged strategy:

- corrective-action teams
- communication
- leadership development.

disequilibrium. For instance, by changing its planning process from time to time, the company promotes new ways of thinking. Shell also uses a method called the "management challenge," in which managers question their peers about the assumptions that underlie their business plans and operations.

Autocatalysis. A system's natural response is to quell small disturbances to its structures. But when autocatalysis occurs, the disturbance survives the system's attempt at suppression and feeds back on itself, becoming amplified in the process to the point where the system must respond. This phenomenon "supports some current ideas that organizational change, even in large systems, can be created by a small group of committed individuals or champions," writes Wheatley.

As Margaret Mead observed, "A small group of thoughtful, concerned citizens can change the world. Indeed, it is the only thing that ever has."

The movement against the war in Vietnam offers a historical example of the effects of autocatalysis. At first, just a few individuals and small groups spoke out against the war. As the war escalated, protests amplified to a point where the governmental system had to respond.

Corrective-action teams. Management set up corrective-action teams to improve plant operations. A CAT is an eight- to 12-member cross-functional team that is designed to solve quality and systems problems quickly.

A CAT would meet for a day or two to analyze a specific problem such as excessive moisture in the fiber or the frequent breakdown of electronic control systems. After determining the root cause of the problem, the team would identify at least four possible solutions, create a plan, assign tasks, and begin solving the problem.

Employees enjoyed serving on CATs because of the satisfaction they got from solving long-standing problems.

Communications. The communications strategy was a systemic learning strategy designed to improve the interaction of departments, functions, and systems. From the beginning of JK Fibre, communication was encouraged. Now it was essential.

Once a month, managers had always invited all employees to speak with them openly about factory problems and to suggest solutions. Now, managers started meeting daily instead of monthly.

The increased discussion helped break down invisible walls between departments. Managers started to understand the interrelatedness of their functions. Decisions made collectively took into account the needs and requirements of all departments. Before, managers were preoccupied with the performance of their own departments. Now, they concentrated on coordinating activities with other departments to achieve optimal company-wide performance.

At monthly review forums, senior managers reported on accomplishments, issues, and ideas in relation to the overall action plan.

Leadership development. The company invested the most financially in leadership development—a transformative learning strategy—to turn the company around. Managers, supervisors, and team coordinators participated in learning laboratories to cultivate transformational leadership styles. In addition, they learned to incorporate personal development into their leadership.

In the leadership-development program, people learned the skills they needed to make the open-organization system work, including the facilitation skills that enable them to solve problems as part of a team and to help create a better work environment.

Many managers reported that the personal development training not only improved their leadership skills, but also produced more peace and harmony within their families!

Once every three months the core leadership team at JK Fibre sets aside two days to continue developing its members' leadership skills and to help them work on their personal development.

Nine months after JK Fibre set out to transform itself, the market for acrylic fiber collapsed in India. The market collapse resulted from political unrest in the country, the introduction of cheaper imported fiber, and an oversupply of fiber.

JK Fibre now must develop new market strategies to respond to this upheaval. The company will push its burgeoning organizational learning skills—operational, systemic, and transformational—to meet these new and unexpected challenges from its changing environment.

An evolutionary spirit

Bombarded by constant change, organizations must transform themselves in response to the complex, competing, and contradictory demands of their external and internal environments. The ability to make that transformation is perhaps their most important competence. By using organizational learning to foster evolutionary self-organization, businesses and other entities can create and sustain their futures.

In self-sustaining organizations, leaders no longer must provide all the answers. Instead, the leaders provide others with the opportunity to reinvent their enterprise collectively and continuously.

As Jantsch writes, "To live in an evolutionary spirit means to engage with full ambition and without any reserve in the structure of the present, and yet to let go and flow into a new structure when the right time has come." ■

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