

Organizational Learning and Safety: Breaking the Performance Plateau

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Traditionally, companies have improved their safety performance by investing in new technologies, procedures, training, and management systems. But in the past decade, many companies that have continued to invest in building leading-edge safety programs have reached a performance plateau. Since 1982, there have been no sustained reductions in major-accident rates in U.S. industry. European regulators report a similar story: the incidence of major accidents has not diminished.¹

There are ample reasons to push for further gains. The cost of business interruptions and workers' compensation remains significant in many industries. While injury incidence rates have remained relatively constant, data from the U.S. National Safety Council indicate that the cost of the average workers' compensation case has increased more than 25 percent since 1989. Companies that can reduce these costs gain a competitive advantage. They can also expect greater satisfaction from employees – and from communities, regulators, interest groups, and other external stakeholders. So what is holding companies back from reaching new levels of safety performance?

In the past, companies improved performance through several different tactics. In the 1960s, companies broke through performance barriers by paying close attention to controlling physical hazards. As this approach matured in the 1970s, government agencies in the United States, Canada, and the European Community adopted regulations that codified minimum control standards. Performance improved further as companies introduced safety management systems and processes that ensured the integrity of technical safety management programs. A host of safety management standards that codify acceptable practice have since appeared, developed by regulatory agencies, trade associations, and other standards-setting bodies.

Now, as companies look beyond incremental gains in technical programs and management systems, they are studying the hidden levers of organizational dynamics that can help or hinder change. These include how people respond to change initiatives, how change in one area can affect broader systems and programs, and how continuous change becomes part of company culture. Without attention to these dynamics, any initiative, however well planned and thought out, is likely to lose momentum sooner or later, fighting the powerful inertia of organizational „business as usual.“

Change Through Learning

In Arthur D. Little's experience, the dynamics of lasting change are best understood in terms of a company's capacity to learn. The accelerating ability to learn and improve has been called the one sustainable competitive advantage for today's organizations. Companies that demonstrate the ability to improve continuously are ones that consistently learn from experience and systematically use that learning to fuel further change. (See *Prism*, Third Quarter 1995, „The Learning Organization: Making It Happen, Making It Work.“) By incorporating the principles and tools of continuous learning into their safety performance efforts, companies can break through stubborn performance barriers and move safety management forward.

Learning organizations base their sustained achievement on:

- Developing a shared vision that integrates the individual visions of its members
- Improving incomplete or inaccurate mental models to develop more effective strategies for improving safety performance
- Thinking beyond safety „boundaries“ by using systems thinking to identify the safety implications of actions across processes and functions

Developing a Shared Vision. In many companies, senior management has articulated the goal of „zero injuries by the year 2000“ and anointed it as the safety vision. To the extent that this is a vision, it is one created at the top and shared by telling, an approach that does not usually result in widespread commitment. Moreover, a numerical goal does not constitute a vision.

An effective shared vision enables each employee, from senior management to the shop floor, to fully understand his or her safety roles and responsibilities. Under a shared vision, individual safety visions are consistent and mutually reinforcing. All staff members understand what constitutes a safe workplace, how they are expected to help create and maintain a safe workplace, and what they are expected to do about potentially unsafe situations.

Only a handful of organizations have developed truly shared visions for their safety programs, and even fewer effectively link the company safety vision to employees' personal visions. To be effective, a vision should describe a future reality in terms that people can visualize and in which they can see themselves. It should reflect and incorporate their interests within the organization.

A shared vision enables companies to capitalize on the powerful emotional driver inherent in safety. As workplace expert Robert Levering's research has shown, one of the three main determinants of how people feel about their workplace is the sense of camaraderie. This sense, which the vast majority of employees strongly value, inspires them to care about their coworkers. Safety programs are a natural outgrowth of camaraderie because they involve employees in helping to protect the welfare of their coworkers.

Harnessing the driving force of shared vision can powerfully enhance safety performance improvement. We worked with a plant where management used a top-down approach to safety, focusing on achieving compliance. Employees were required to report both injuries and unsafe conditions or near misses. The plant observed a small but noticeable upward trend in the rate of injuries, with no change in the number of near misses. After reviewing the situation, facility managers discovered that many near misses went unreported. Workers tended to react to an unsafe condition by correcting it rather than reporting it. By doing so, they felt they were supporting each other and sustaining their shared commitment to teamwork. After all, why turn in a coworker when it is easy to fix the problem? As a result, the facility's ability to identify and track problem areas and address them was compromised.

The facility corrected the problem by realigning its safety vision to reflect employees' commitments and concerns. Individual workers were highly committed to their own safety and that of their coworkers. They were also highly committed to teamwork and mutual support. Employees and management met in several working sessions to link their shared vision with the concept that reporting unsafe conditions better protected everyone at the facility. As a result, the company was able to win employee commitment to better reporting. Soon the near-miss reports were up and the injury rate was down.

Without a shared vision, managers must „push“ safety programs into their organizations. With a shared vision, safety programs are „pulled“ forward by the mutual stakeholder interests that safety represents. In a recent Arthur D. Little survey of occupational safety and health programs, 62 percent of respondents indicated that „line management not taking ownership of each initiative“ was a significant impediment to performance improvement in organizations. When a shared vision supports the program, line management is able to take ownership of safety, and its sense of responsibility for gaps between the shared vision and the current reality fuels improvement.

Improving Mental Models. After a shared vision has been developed, a learning organization establishes a view of its current reality. A challenge in this step is becoming aware of the mental models that filter the way we perceive things. In companies, these mental models are reflected in corporate traditions and professional and functional working methods (engineers, for example, approach projects differently than human resource managers). The models are also reflected in unwritten but widely held employee opinions about „how things really happen around here.“

We observed the power of mental models in a chemical company that was dissatisfied with its safety performance. The company determined that operator performance was hindering improvement. It attempted to address this issue by launching a major program to revise and streamline all operating procedures. After the revisions were completed and implemented, dissatisfaction with performance persisted. A couple of years later, the company launched a second major round of revisions to its operating procedures. Again, performance failed to meet management expectations, despite an unwavering commitment to improving safety performance.

The mental model that limited management's tactics for improving safety performance was its belief that changing operating procedures would change operator performance. In fact, the real issue in this company was organizing job tasks and equipment to minimize mistakes and incorporate better „cues“ to proper operation in the work environment.

An exclusive focus on procedures and training frequently limits safety program improvement efforts. In Arthur D. Little's recent safety program survey, 74 percent of respondents indicated that incident investigations „usually or frequently“ result in employee training initiatives. Only 14 percent of respondents indicated that management system modifications „usually or frequently“ result from incident investigations. The mental model at work – training improves operator performance – is often incorrect.

To uncover and improve existing mental models, managers need to engage in a process of inquiry about the assumptions and intentions that underlie existing practices. Such an inquiry can prove challenging; mental models are generally as invisible to the organizations that hold them as water is to fish.

Thinking Beyond Safety „Boundaries.“ To evaluate current reality and identify leverage points for improvement, a learning-based safety program must address the entire organization. While safety management systems normally focus exclusively on a company's explicitly safety-related activities, other factors – many of them far removed from safety programs – affect performance. For example, buying gaskets from a new supplier may be a smart decision for purchasing.

However, if the gaskets come with markings or label codes that are unfamiliar to the maintenance shop, materials may be matched incorrectly – which could lead to a safety problem.

By using systems thinking to break down conceptual boundaries, a company can achieve a better perspective on factors that influence safety. Systems safety approaches, which emerged among safety engineers in the 1960s and 1970s, enable practitioners to look at the interactions of components within physical systems, rather than just at hazards inherent in individual components of those systems. Similarly, systems thinking allows companies to move beyond looking at one management process at a time to examine critical interactions (intended and unintended) among management processes.

Consider what commonly happens when a company attempts to improve safety performance by introducing a new safety training or awareness program. At first, the program focuses workers' attention on safety, and the company sees short-term improvement. But after the program's novelty wears off and the spotlight shifts from safety to other day-to-day priorities, safety performance slips back to historic levels. Lacking ways to identify and understand the underlying causes of backsliding, companies often respond by pushing harder, with more safety training. But since training alone cannot change how employees understand and manage priorities, the end result is unchanged safety performance.

A more effective response is to examine how safety-related practices and priorities interact with other organizational processes and norms, and then to provide approaches for sustaining an ongoing balance among these priorities. Employing in-process measures of safety performance, such as hazard assessment completion and safety inspection results, is one way to create ongoing leverage for sustaining key safety activities.

We recently applied systems thinking to develop a new approach to safety at a mattress production plant that sought to reduce workers' compensation costs. We focused our analysis on the shipping department, where back injuries were very common. Shipping department employees handled the mattress products manually, lifting and shifting them individually. Numerous back injuries occurred. Because of the way the products came to shipping from the production department, employees had to stack and restack each batch of mattress products several times in order to match shipping loads with orders.

To reduce injuries, the company had already trained workers in lifting techniques. It had also proposed a massive automated materials handling system, which proved infeasible on closer analysis. Taking a broader look and involving production in solving the problem, we identified a simple way to have mattress batches reach shipping in a sequence that matched shipping loads. This reduced the number of restacks required and allowed the existing staff to do the required work in two-person teams. As a result, the shipping department virtually eliminated back injuries. In addition, the company was able to reduce the space required for the shipping department. The key to identifying this solution was to examine the problem in context rather than as an isolated issue.

Next Steps in Safety Management

The continuing trend of downsizing and cost-cutting raises the stakes for new approaches to safety management. As a result of downsizing, operating managers throughout manufacturing companies are assuming increasing responsibility for safety. However, these managers have little preparation for managing safety and often do not know how to improve safety performance.

This situation presents both a threat and an opportunity. The threat, of course, is that safety will lose out against other priorities until a new rash of accidents refocuses the attention of senior management, triggering the familiar cycle of prioritizing, improving, and backsliding. Companies that integrate the principles of sustained learning, however, gain an opportunity to create flatter, less fragmented organizations. In these organizations, safety and other risk-reducing priorities will be handled as components of doing business, not as add-on responsibilities promoted by isolated technical experts. Approaching safety performance in terms of the learning organization enables companies to manage safety in the context of productivity, quality, and other key organizational goals.

To move toward a learning-based approach to safety management, companies can take the following steps:

- **Realign the vision.** Define the company's current safety vision and determine whether it represents interests shared by management and employees or is a top-down vision not linked to employee interests. Develop a shared vision of safety objectives that incorporates the visions of all those responsible for safety performance, from individual production and maintenance workers to team leaders, line supervisors, and managers.
- **Establish current safety reality.** Current safety reality can be defined in terms of three criteria: the organization's existing safety capability, its current level of achievement, and the degree to which capability and achievement match the desired level of safety performance. Developing this portrait of current reality may sound simple. Experience shows, however, that incomplete data, and diverging interpretations of those data, often complicate the task of satisfactorily defining current safety reality.

• **Map steps to close the gap.** Effective strategies for bridging the gap take into account insights from systems thinking and mental models. They focus on integrated approaches to achieving the shared vision, rather than on mechanistic problem-solving. They seek to bring change and improvement to a few high-leverage areas. They take a broader, systemic view of management processes, looking explicitly at processes that may seem unconnected to safety but that influence safety performance. And they seek to improve real processes and programs.

To break through the safety performance plateau, companies need to focus above all on approaches that help pull improvement through the organization by incorporating the interests of their stakeholders. In many cases, the expertise and experience necessary for further safety performance improvement already resides within companies – particularly those with a long history of dedicated safety management. By harnessing the organizational forces that enable learning and real change to occur, companies can channel the knowledge they already possess about safety to achieve cost-effective, and often dramatic, improvement.

¹ Sources: Accident Facts 1984 to 1994. *National Safety Council; Health and Safety Executive (United Kingdom)*.

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