

EHS Organizational Quality: A DuPont Case Study

Major environmental, health, and safety (EHS) organizational restructurings have been, for the most part, managed by default—that is, driven by broader business reorganizations and financial considerations, rather than by self-initiated efforts by EHS senior managers.

The mid- to late 1990s were a particularly turbulent time for EHS organizations. Viewed as service providers (i.e., overhead) by business management, they were caught up in wave after wave of restructurings that outsourced and/or consolidated these activities into shared service departments.

Reorganization fever has tapered off more recently, and, over the past five years, managers have fine-tuned their organizations to repair some of the bad calls made during this aggressive period of service restructurings. But, if anything, the pressure placed on EHS departments “to do more with less” has only intensified.

What are today’s best practices? The recent retirement of Paul Tebo, Vice President of Safety, Health & Environment (SHE) at DuPont prompted the company to rethink its EHS organizational strategy.¹ Already considered one of the best EHS organizations in industry, what

Best practices in corporate environmental, health, and safety organizational design

could it do to improve?

About This Research

For the past several years, the Center for Environmental Innovation has

been examining the characteristics of high-performing environmental, health, and safety organizations. Called “Organizations in Transition,” the focus of the work has been on large corporations because these generally have the most mature organizational practices.

Because of their size and their layered structure (encompassing the corporate, business group or sector, and facility levels), large corporations can also afford a window into best practices for small- to medium-sized enterprises (SMEs).

The classic organizational elements (such as size, structure, and communication links) are being evaluated for their capacity to efficiently deliver services of high value to business. In other words, is an organization able to achieve an appropriate blend of what the customer desires and requires, and at an optimum cost?

The identity of the “customer” varies considerably depending on whether one is considering

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the “wants and needs” of the board of directors, a marketing manager, or a plant manager. In addition, the concept of meeting customer wants and needs has taken on added dimensions that include the ability to deal effectively with emerging stakeholder issues driven typically by nongovernmental organizations (NGOs).

The challenge, of course, is to get the blend right. That’s what this research is about.

To date, this effort has produced journal articles on the evolution of EHS organizational strategy,² the definition of superior organizational performance,³ a screening protocol for high-performing organizations,⁴ and the growing influ-

ence of NGOs on EHS organizations.⁵ It has also produced an interim report.⁶ Additional information on this research can be obtained at www.enviro-innovate.org.

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Research Methodology and Basis for Comparison

A number of trade associations, professional societies, and industry sector company alliances have collected survey information on organizational structure and staffing size. In most cases, however, the results of these studies are available only to survey participants.

The exclusivity of these studies may give the impression of value. But, for the most part, it is extremely difficult to interpret the results accurately. Much about an organization’s design is related to subjective issues such as the influence of company culture, business objectives, productivity, and even personality and legacy issues. These rarely are captured in a “fill in the blanks” questionnaire.

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at a minimum, telephone) interviews with staff members.⁷ The safety group may be separate from the environmental group because it truly represents best practice for that particular company—or it just may be a reflection that “Joe” cannot get along with “Jane.” Questionnaires cannot reliably uncover this type of information.

The author’s own experience (working as a consultant to companies undergoing reorganization) has revealed that legacy issues, individual personalities, and/or dysfunctional group behavior can be the driving forces behind many organizational decisions. This statement applies to all organizational departments, not just EHS.

The information for this case study was gathered during a daylong visit to DuPont’s corporate headquarters in Wilmington, Delaware, in August 2004. Several EHS senior staff members were interviewed, and there were a number of follow-up telephone calls and e-mails to verify facts.⁸ In addition, the author has interviewed a number of senior DuPont EHS staff members over the years for various client benchmarking projects. These interviews helped to provide a historical perspective on DuPont’s organizational transitions.

The interview protocol was based on the spectrum of essential management systems for EHS and social responsibility. DuPont was selected because it was ranked first by a wide margin in a selection protocol that was developed as part of the Organizations in Transition research program.⁹ The company’s recent reorganizations and high-profile governance issues (discussed later) were coincidental and were not the basis for the selection of DuPont, although they added to the value of the case study.

The judgments on EHS organizational best practice are based on an extensive literature search, ongoing interviews with other companies identified as “best in class,” and the author’s direct experience in supporting companies undergoing organizational transformation.

Background: DuPont's EHS Organizational History and Culture

DuPont was founded in 1802 to produce black powder, an inherently dangerous operation in the nineteenth century. Even with what were then considered to be state-of-the-art safety practices, DuPont family members died in those early days.

What grew from these experiences was a deeply embedded safety culture that matured over time to a core value that many consider unique in its depth. More than 35 years ago, in-house practices reached such a level of sophistication, and had been noticed externally to such a degree, that the company formed a safety training and consulting business. In 1998, it became a stand-alone business, DuPont Safety Resources.

As one interviewee reported, "the safety culture had a spill-over effect on related areas such as the environment and health." For example, the manufacture of dynamite and dyestuffs in the 1880s and 1920s, respectively, raised significant occupational health issues. As a result, DuPont took the initiative to improve the science by establishing the Haskell Laboratory for toxicology and industrial medicine in 1935.

With respect to environmental issues, DuPont developed a reputation for being an early adopter of state-of-the-art practices. For example, the company was one of the first to adopt a formal EHS policy (1971) and to create an officer-level vice president of EHS (1989).

Although DuPont's EHS management systems were so well regarded that they were (literally) marketable, the company's organizational structure was rather typical for large corporations during that period: a corporate group consisting of directors for medical, safety, occupational health, and environment, with a small supporting staff and business-level support consisting of embedded specialists at the plants. DuPont used this decentralized EHS structure during the 1980s and

early 1990s, in keeping with its overall business philosophy.

The company underwent a major restructuring in 1993, during which its five major business sectors were replaced with 23 highly autonomous strategic business units (SBUs). The workforce was cut by a third, and the corporate service functions (such as human resources, EHS, finance, and information technology) were given the mandate to be as cost-effective as outside service providers; the SBUs now had the option of going outside the corporation. During 1993, Paul Tebo, then vice president of the Nylon Intermediates Business, was transferred to take over responsibility for the newly created Corporate SHE Excellence Center.

Staffed initially by the original EHS corporate group, the center began to expand as specialists were transferred from the SBUs or hired from the outside to form a shared service group.

In 1996, the group was placed within Engineering, but under the vice president's overall direction. This service group operated "on demand"—that is, it was paid for by the SBUs that contracted for its services.

There was also another small group (essentially, the original corporate group) that remained as overhead and focused on strategy, external relations, and governance issues. During this time period, the group set the company's "Zero Goal" philosophy (which is similar to Quality's goal of zero defects) and its "Sustainable Growth" theme.

A Commitment to Safety

DuPont's safety culture has an overriding influence on how it addresses these issues. Other

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companies tout “safety first” as a core value, but few actually have made this transition.

At DuPont, the commitment to safety transcends the “flavor of the month” and “crisis of the day” approach, as well as the “personal values” of the current CEO—all syndromes that affect many companies. The unwritten rule in most companies is that if you make or exceed your business targets, you have nothing to fear. This wink/nudge on attention to safety is utterly pervasive in many organizations.

By contrast, at DuPont, safety is part of the company's DNA. Outsiders may point to the famous Safety Training Observation Program™ (STOP) as the source of the company's success, but DuPont employees know that there is an absolute no-nonsense attitude toward safety that creates a climate bordering on outright fear, directly paralleling the fear of “missing the numbers” found in other companies. A manager with a significant safety problem in his or her department has a “serious career incident,” as one interviewee euphemistically called it.

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Organizational Implications of DuPont's Culture

What are the EHS organizational implications of this culture at DuPont?

Advantages

First, EHS staff size can be minimized when there is greater “ownership” of EHS concerns and more personal responsibility. Fewer individuals are needed to watch over compliance and governance issues.

Second, a shared service organization is more likely to succeed (if staffed with competent pro-

fessionals) or fail (if it does not live up to the quality demands of the customers). Even if the internal organization's services cost more than those of external providers, if its quality proposition is desirable, an internal organization will prosper.

Third, cooperation and communication are improved when employees really are working on a shared value and not just an issue that executives have little interest in (other than when things go wrong).

Finally, with DuPont's culture, the EHS department does not become a dumping ground for underperforming employees. At some companies, EHS departments are viewed as such. This creates an array of problems and adversely impacts EHS's ability to secure a “place at the table” in matters that have strategic business significance.

Potential Drawbacks

On the other hand, a focused concern about environment, health, and safety may lead to unintended consequences for a company. The allegations of Toxic Substances Control Act violations that DuPont currently faces have their roots in a voluntary, internal company threshold for perfluorooctanoic acid (PFOA) that was set far below any risk-based regulatory standard. (This controversy is covered extensively in this issue of *Environmental Quality Management*. See Lynn L. Bergeson's “Washington Watch” column.)

Business managers sometimes use incidents like the PFOA controversy as a justification (or rationalization) to never go “beyond compliance”—and then resource their activities accordingly.

Finding the Right Balance

What is required, of course, is to find the right balance, and this must be determined based on each company's culture and business objectives.

In DuPont's case, the company seems to have achieved a level of performance that offers meas-

urable benefits (not to mention a profitable safety consulting business). It appears that the performance level reached at DuPont could be attained in many other companies, only at a far greater cost, by piling on dedicated EHS resources.

Recent Reorganization

In 1999, DuPont sold Conoco and realigned its businesses into five “platforms” to reflect the company’s new ventures into electronics, communication, nutrition, and agriculture. All staff organizations again were challenged to be “self-supporting.”

The Corporate SHE Excellence Center had grown to approximately 35 employees, with a relatively small “core group” (paid for by Corporate) that focused on external relations, strategy, and governance. Plants typically had one to six embedded EHS specialists (paid for by the sites themselves), with up to 20 at the largest facilities. Additionally, the business units had EHS specialists supporting multiple sites within their businesses.

Over the past year, a number of issues and events, including Paul Tebo’s retirement, led to the restructuring depicted in **Exhibit 1**. The comparable 2003 process-flow diagram would appear similar at first glance, but the changes are both subtle and profound.

The Global Operations Leadership Team—structured back in the days of 23 SBUs and consisting of the EHS business leaders and other senior specialists—had grown to 28 members, an unwieldy number for any group. This team was streamlined to reflect the five business platforms, and now has 15 members.

Regional SHE-specialized resources had grown within the SBUs, but sharing opportunities were limited across businesses. A dozen EHS specialists now have been realigned within the SHE Excellence Center to be shared among all businesses. They are located in their original regional offices.

Remediation services were unaffected. They remain in Corporate Services, but are administered by Engineering. Where high-liability remediation issues are concerned, the businesses do not have the option of going outside to find other alternatives for managing them. The constraints here are similar to those for certain legal services.

At the time of the recent reorganization, the PFOA issue was brewing, and product stewardship was receiving increased scrutiny. A high-level Product Stewardship Council was formed to enhance governance. In addition, a steering team and a network were formed to develop strategy and coordinate technical sharing, respectively.

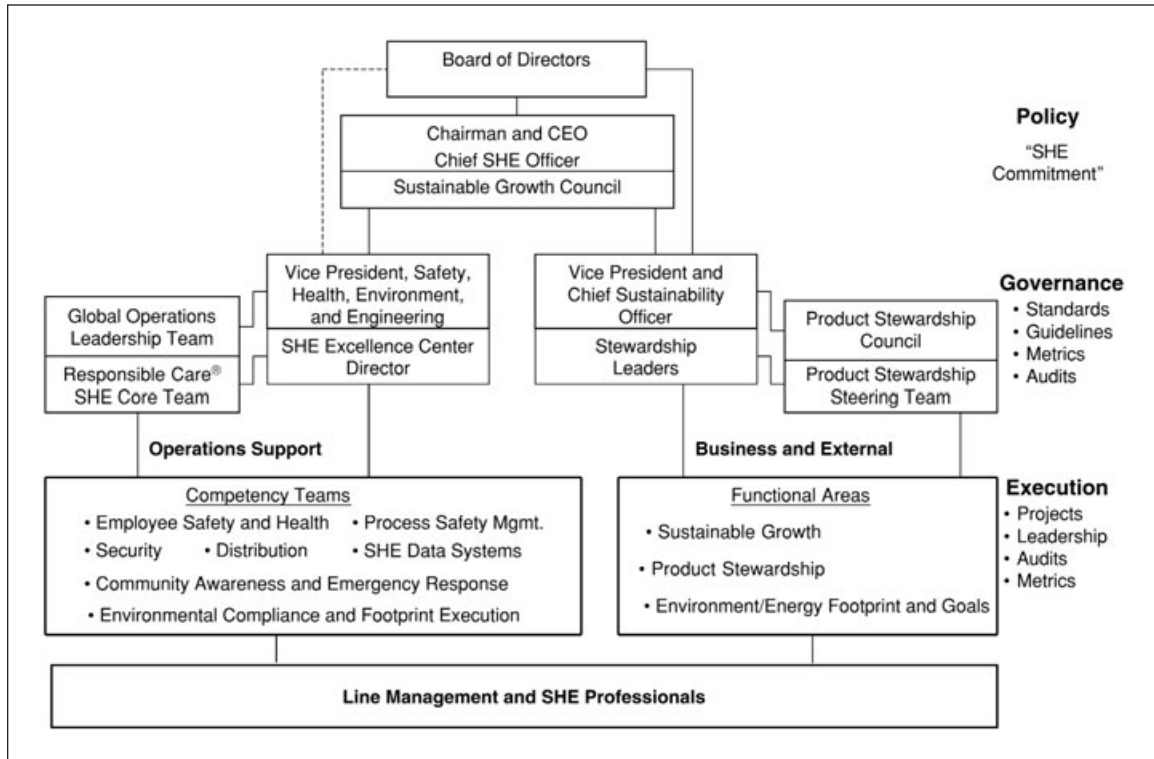
Previously, the SHE Excellence Center administratively reported through Vice President of Engineering Jim Porter, but was under the strategic direction of VP of EHS Paul Tebo. With the recent changes, Jim Porter’s title has changed to VP of Safety, Health, Environment, and Engineering. He has taken on the strategic direction of the group and has handpicked the members of the reconfigured Operations Leadership Team.

Linda Fisher was hired from outside the company to fill the newly created position of Vice President and Chief Sustainability Officer, responsible for product stewardship, sustainable growth, and long-term strategy and goals for energy and the environment. Outside DuPont, she was seen as Paul Tebo’s replacement. In fact, she picked up new responsibilities, while others were shifted to Jim Porter and directed by Aldo Morell, the director for the SHE Excellence Center.

Porter and Fisher bring different perspectives and drive different missions—specifically, opera-

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Exhibit 1. DuPont Safety, Health, and Environment Organizational Chart



tional excellence and longer-term goals and strategies for product growth, respectively. The former mission is paid for by the businesses and the latter by Corporate. Signoff authority for mergers and acquisitions rests with Fisher, since this function is related to the company's long-term sustainable growth strategy.

Originally, the businesses used the services of the SHE Excellence Center in a manner similar to hiring outside consultants. That is, the group was paid for through specific projects or support activities. The new Center is using an allocation system based on historical demand plus anticipated workload derived from the controllable "fixed costs" of the business.

An Emphasis on EHS Substance

Having an officer-level EHS manager was rare in the 1980s but is fairly common today within large corporations. However, having two is

unique—and having one of these individuals directly report to the CEO is rare.

In some companies, the individual who holds a title such as VP of Safety, Health, Environment, and Engineering is not an experienced EHS professional. Such "in name only" designations are common; they cost nothing and make a public statement that the company is concerned about EHS.

DuPont is unique in that senior business managers have an in-depth understanding of EHS—especially safety. For example, the DuPont Safety Resources business is staffed primarily by former plant managers, not safety technical specialists.

A number of recent appointments of VP-level positions in other companies have been filled by individuals with few EHS credentials. But DuPont hired a seasoned environmental lawyer instead of, say, a communications specialist.

The PFOA Issue

Most VP positions within DuPont have been filled internally. Hiring Linda Fisher from the outside may reflect a desire to seek fresh views on strategy. On the other hand, the timing has raised questions relative to the PFOA issue. As one editor put it, "What is unsettling about Fisher's appointment is that she was deputy administrator of EPA and the agency's assistant administrator of the Office of Prevention, Pesticides and Toxic Substances—the office that has primary responsibility for administering TSCA."¹⁰

Was there a link between the PFOA issue and the recent staff moves and restructuring? We raised the question directly to DuPont. Aldo Morell responded that, aside from addressing the void left by Tebo's retirement, "The changes were part of a major restructuring effort connected to divesting the Textile and Interiors businesses. They were initiated to help us leverage [EHS] resources across all businesses and there is no connection to litigation issues." With respect to the conflict-of-interest concern, Linda Fisher stated:

There are very strict government ethics laws which govern the interactions that former government officials can have with their former Agencies, which I take very seriously. I am careful to comply with those so as not to create even the appearance of a conflict with EPA. In the case of PFOA, I have recused myself from any interface with any person at EPA on this matter.

DuPont's stated position on this issue is reinforced by the fact that Fisher's background is much broader than her recent work at EPA might imply. She has held positions with the Washington, DC, office of the Latham & Watkins law firm, and with Monsanto as vice president of government affairs, working on biotechnical matters that are strategically relevant to DuPont today.

Splitting EHS Functions

Splitting the EHS functions between two EHS VPs may avoid the typical problem of a single leader becoming consumed by day-to-day operational firefighting—a situation that is all too common in most organizations.

On the other hand, it potentially can create problems in coordination or conflicts over EHS objectives. DuPont uses a rich mixture of councils, teams, and networks that help minimize these issues.

Centralized and Decentralized Resources

DuPont uses a blend of centralized and decentralized resources. This helps avoid the problems that companies typically run into if they go to extremes of either centralization or decentralization. Local control and site-embedded resources are necessary for ownership and accountability, while centralized resources provide economies of scale.

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What is particularly interesting about DuPont's reorganization is that it "stripped" resources out of business-level groups and made these available to a broader "customer base." Empire building at the business level has plagued the vice presidents of EHS for decades, but few have been able to unlock these resources. How did DuPont accomplish it?

First, the corporate group reports up through operations, and not as a staff function (such as Human Resources or Legal). Second, DuPont handpicked the five EHS platform leaders and allowed them to remain within the businesses reporting to their own executives. (Our research has shown that business executives feel strongly about having a senior-level EHS manager that they can trust to watch over these sensitive areas, especially in the wake of passage of the Sarbanes-

Oxley Act of 2002, which introduced more stringent requirements for corporate governance and financial accounting.) Third, they did not touch the embedded resources at the sites.

Changing the cost-allocation system for the SHE Excellence Center has several interesting dimensions. Setting up internal service groups to be on demand and to function like external consultants will encourage superior performance, although up to 10 percent of their time can be used to closely track billable hours and other costs.

Using a broad allocation system can allow favored but poor-performing individuals to remain, yet it can save costs associated with closely logging

hours. A number of shared service groups that initially tracked costs closely have moved toward an allocation system after they proved their mettle. DuPont appears to be following this trend.

Recently, some companies have moved their audit services into prominent, stand-alone groups, sometimes within financial audit services. There are distinct advantages to this arrangement, including independent reporting up through the company, as well as budgets that are not dependent on business-level funding.

DuPont has audit services, but these are more dispersed and are run by teams, regional networks, and an audit program manager at Corporate. DuPont's culture is more supportive of this approach.

Closing Remarks

Two recent research studies investigating the characteristics of companies with sustained high financial performance have explored organizational issues as a contributing factor.¹¹ Both came

to the same conclusion—namely, that no particular organizational structure defines winners. They did, however, outline certain characteristics that are essential:

- minimum bureaucracy; simple structures and work processes
- high degree of sharing; information technologies
- freedom and responsibility within a framework; a culture of discipline
- trimming layers of management; avoiding hierarchy
- attention to staff competency, roles, and strategic direction
- streamlined rules and regulations.

The last point (streamlined regulations) may seem diametrically opposed to the mission of EHS. However, our research to date closely parallels these findings.

While no single structure defines success, we have found that the best companies tend to create a blend of structures—centralized, decentralized, matrixes, and so on—to achieve business EHS objectives cost-effectively. DuPont appears to have achieved that performance blend.

But this does not mean that the DuPont model is necessarily right for others. The real key can be found in the list above: “a culture of discipline.”

Some of the specific choices that appear quite successful at DuPont may wind up being disasters at other companies. For example, in one company that wanted to achieve “excellence in EHS,” we found armies of EHS auditors and “checkers checking the checkers” because the culture was based on the belief that EHS is the responsibility of the EHS staff. While this may represent the extreme, it illustrates the importance that company culture plays in selecting the required blend of elements to achieve business objectives.

Jim Collins's now-famous dictum—“Right people on the bus, the wrong people off the bus,

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and the right people in the right seats”—certainly has applicability to EHS staff positions. Far too many EHS organizations suffer with dysfunctional staffs, open warfare among the business groups, and no clear strategic leadership at the top.

DuPont’s safety culture has a low tolerance for incompetence in these functions. By contrast, in some companies, they are the ideal drop-off point for favored but underperforming employees.

DuPont’s recent EHS reorganization was not initiated by the all-too-typical, CEO-inspired, broad-based service reorganization. It was controlled by senior individuals familiar with the nuances of EHS.

We have seen far too many reorganizations driven by business executives using external management consultants who may be geniuses at reorganizing human resources or accounting departments, but who are totally clueless at structuring EHS departments. They typically place obsessive focus on staff headcount benchmarks, with little understanding for the impact of regulatory, legacy, and emerging EHS issues.

This brief article cannot begin to detail all the factors that come into consideration when reorganizing EHS departments. We can state, however, that DuPont got the vast majority of its choices spot-on based on our research. For those options where we would have suggested another path, they had good business reasons for selecting the path chosen.

Our advice to EHS managers is simple: (1) Take the initiative to examine your own organization before you get caught up in another mandated reorganization, and (2) take a hard look at organizational legacy issues and EHS staff mem-

ber competency. In the lingo of Jim Collins, do you have the right people on your bus and the wrong ones off? Are they in the right seats and headed in the right direction?

Most companies think they have it about right. But even DuPont, considered to be the best of the best, took another look.

Notes

1. DuPont uses the abbreviation “SHE” as a means of emphasizing safety. But to avoid confusion, this article uses the more common “EHS.”
2. Karan, E., & MacLean, R. (2003, September). Corporate environmental organizations: Evolving business management strategies. *Corporate Environmental Strategy: International Journal of Corporate Sustainability*, 10(8), 2-145-2-153.
3. MacLean, R. (2003, Winter). Superior environmental, health, and safety performance: What is it? *Environmental Quality Management*, 13(2), 13-20.
4. Yang, Y., & MacLean, R. (2004, Spring). A template for assessing corporate performance: Benchmarking EHS organizations. *Environmental Quality Management*, 13(3), 11-23.
5. MacLean, R., & Nalinakumari, B. (2004, September). The new rule makers: The paradigm shift in environmental, health, safety, and social responsibility “regulations” now underway. *Corporate Environmental Strategy: International Journal for Sustainable Business*, 11(8), 2-183-2-198.
6. MacLean, R. (n.d.) Preliminary report of existing literature & model development. Unpublished, available to project sponsors.
7. Additional information on benchmarking techniques can be found in MacLean, R. (2004, July/August). Better benchmarking—How to derive more value and insight in a survey-weary world. *Environmental Protection*, 15(7), 12-14.
8. Primary contact was Aldo Morell, Director—Safety, Health, & Environment.
9. Yang & MacLean, note 4 above, at p. 22. DuPont scored 668 points, with the next highest scoring organization, Johnson & Johnson, at 584.
10. D’Alessandro, W. (2004, August 13). DuPont stands and fights for its cause. *Crosslands Bulletin*. Amherst, NH: Victor House News.
11. Collins, J. (2001). *Good to great—Why some companies make the leap . . . and others don’t*, New York: HarperCollins; Nohria, N., Joyce, W., & Robertson, B. (2003). What really works? *Harvard Business Review*, 81(7), 42-52.

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