

How 3M forged a culture of collaboration

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The Post-it company built and nurtured a system in which employees across divisions are encouraged—even expected—to collaborate.

By 1999, Sumita Mitra, a corporate scientist in the research lab of 3M ESPE, the giant's dental products division, had been working on new dental materials for more than two decades. She'd helped develop coatings that prevent plaque, and innovative cements that could be set by light. As she'd watched the cosmetic dentistry business emerge in the late 1990s—a market the American Academy of Cosmetic Dentistry estimates at \$2.75 billion according to a 2007 survey, its most recent—she saw an opportunity: No existing composite material delivered the strength and natural appearance that dentists needed to create long-lasting, good-looking restorations. Dentists using composites were having to choose between strength and polishability, and Mitra wanted to develop a product that delivered both. To do so, she would have to venture outside the realm of traditional dental materials.

Three years later, 3M ESPE introduced Filtek Supreme Plus, a strong, polishable dental material and the first to include nanoparticles. More than a technological breakthrough, Filtek Supreme Plus is an example of successful collaboration—in this case, between Mitra and a scientist working in one of the company's four corporate labs. The product wouldn't have come to life if the company hadn't created the organizational systems and culture needed to encourage and support collaboration. Taking Filtek as an example, here's a look at how 3M (MMM) has done both.

Established internal networking channels

When Mitra decided she needed to look into nontraditional materials, she turned to 3M's database of technical reports written by the more than 7,000 scientists at the company. Those scientists are spread between a corporate lab devoted to basic research, 40 division labs that essentially form a bridge between that basic science and the market, and 35 international labs. When Mitra searched the database, she found a promising article about nanoparticles written by William Schultz, a scientist in the company's corporate labs right there in St. Paul, Minn., near her own office within 3M ESPE.

For spreading knowledge across the company, the database is invaluable, but the real work of collaboration happens face-to-face, often at events organized by TechForum, an employee-run organization designed to foster communications between scientists in different labs or divisions. Such networking, says Larry Wendling, vice-president of 3M's corporate research labs, "is 3M's secret weapon." Indeed, soon after reading the paper, Mitra ran into Schultz at a TechForum gathering and described her problem. (Three years ago, 3M also created the "R&D Workcenter" networking Web site, which Mitra describes as a "LinkedIn for 3M scientists.")

Schultz was happy to help, giving Mitra a primer in nanoparticles and eventually lending her two of his researchers. "One literally moved into our lab for a few months," she says. Such sharing of resources is almost impossible when different units of a company feel they are competing against each other to deliver better financial results or the next breakthrough technology. But at 3M, employees are expected to collaborate—and are evaluated on their success. So for a basic scientist like Schultz, patents are nice but what his manager really wants to see is his research leading to new products for the business units. "Bill needs a Sumita to take his work, link it with a consumer need, and turn it into something of value," says Wendling.

Such collaborations can also involve the business units. When 3M's automotive aftermarket division asked the corporate research lab to help it develop a better system for mixing and applying the putty used to repair dents, for instance, one lab scientist immediately thought of work he'd seen at a TechForum event: a technology developed by the 3M ESPE's German lab to efficiently mix and apply the material used to make dental impressions. The lab adapted the dental technology for use in body shops. (In cases involving business units, there are more formal processes—one unit might buy a technology from another unit, for instance.)

Collaboration's dividends

The company launched Filtek Supreme Plus in 2002, and it is now the industry's leading composite for restorative work. "Bringing nanotechnology into dental materials was a great breakthrough," says Andrew Spector, a founder of Gentle Dentistry, a private practice in Haworth, N.J. And 3M wouldn't have made that breakthrough if it didn't recognize collaboration as an essential element of innovation and create the systems to support it.

What can executives learn from 3M's approach to collaboration?

Support networks. Build Web-based social networks that help employees with a problem find those with an answer. Support grassroots networking initiatives such as 3M's TechForum—an employee-run group that organizes speaker events to stimulate thinking and also serves as a kind of mixer, where scientists from different labs or divisions can connect in person.

Build collaboration into your employee evaluation system. Reward employees not just for developing an innovative technology, idea, or process, but for spreading it. No company reaps the benefits of collaboration if their employees or managers are hoarding innovation in order to look good at the next quarterly meeting.

Encourage curiosity. 3M allows employees to spend 15% of their time on projects of their choosing, giving them permission to develop ideas or technologies that may be outside of their regular work focus. Such policies increase the odds of collaboration, as the path of curiosity often leads employees beyond their knowledge base, to a place where they need the advice and insight of others.

Create innovation funds. Group or department managers focused on core-related projects often don't want to spend money exploring or developing innovative ideas. To overcome this common roadblock, companies should create an alternative source—3M calls these Genesis Grants—that employees can go to for funding of innovation projects that don't fit neatly into existing departments.

Don't underestimate the value of physical proximity. When 3M's Post-it Note team wanted to accelerate product development, it had the team's marketing, financial, and other nonmembers move into the same building with the tech folks. If different functions have to be housed in different buildings, pay for a shuttle service that makes it easy for employees in different departments to visit each other.

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