

# Failing well— at the right scale

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When you're exploring the frontier, the right kind of experimentation is one that produces good failures quickly and intelligently, which is why Professor Sim Sitkin at Duke calls them *intelligent failures*, despite the apparent oxymoron.<sup>1</sup> Managers who work with failures in this fashion are more likely to get the most out of them—and also to avoid the *unintelligent* failure of conducting experiments on a scale that is larger than necessary.

As an example, in the late 1990s, a major telecommunications company I'll refer to as Telco set out to innovate.<sup>2</sup> To be positioned at what was then the forefront of what was then new and somewhat unproven technology, Telco decided to launch digital subscriber line technology, or DSL, to provide its customers with high-speed internet service. In its well-intentioned desire to innovate, however, Telco made the mistake of experimenting at too large a scale.

Despite the very real operational risks of the unproven new technology, Telco launched DSL throughout its entire market, all at once, and before the company was really able to deliver it reliably. The outcome, unfortunately, was a dismal failure. Customer satisfaction, normally in the high 80s, dove down to the teens. As many as five hundred customers a day were waiting to hear back about some aspect of service. Twenty percent of complaints were taking 30 or more days to resolve. Customers were frustrated and angry, and employee morale suffered as well.

Of course, Telco's mistake did not lie in trying to innovate, or even in experiencing failure as part of the innovation process. The mistake was that it launched an experiment—an uncertain new service operation—at such a large and painful scale. By rolling DSL out to the entire market, rather than launching a small pilot that could help it see what worked (and what didn't), Telco lost the chance to make rapid changes as a result of thoughtful experimentation. The company

converted what could have been an intelligent failure into a preventable (not so intelligent) failure. At that point in

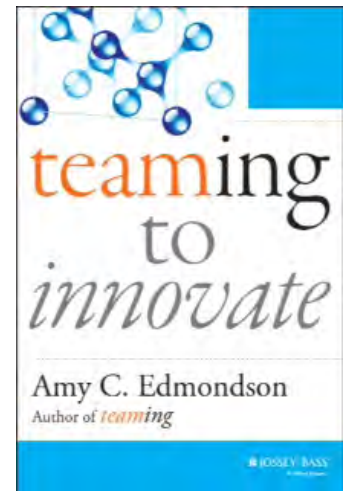
time, the process knowledge for how to deliver the new service reliably across diverse customer situations was simply underdeveloped. Not considering this mismatch, Telco was in a position of managing an initiative that should have been treated as a complex new operation, as a routine operation.

In contrast, IDEO, the global product-design consultancy, set out to launch a new kind of innovation-strategy service.<sup>3</sup> Traditionally, IDEO helped clients design new products within their existing product lines. The new service would assist clients in identifying new strategic product line opportunities. Knowing it had not worked out all the details for delivering the new services effectively, IDEO started with a small project with a low-tech manufacturing client, so as to learn from an early small experiment. Although the project failed—the client did not change its product strategy—IDEO learned from it. The company then figured out what it had to do differently, including developing new processes for understanding clients' businesses, and hiring staff with MBAs who had experience diagnosing and developing business strategy. Today, strategic services account for more than a third of IDEO's revenues.

We can sing the praises of intelligent failure as much as we want. But that inner child, the one that wants to be right and is terrified of being wrong, doesn't just go gently into that good night. That's where leadership comes in.

## Leading failure

As we've seen, failing well means tolerating unavoidable process failures in complex systems and celebrating in-



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telligent failures at the frontier of knowledge. Rather than promoting mediocrity, such tolerance is essential for any team or organization seeking the new knowledge that failure in complex and novel settings provides.

Strategically producing failures takes this one step further. Researchers in basic science know that once in a great while an experiment yields a spectacular success. However, more often (far more often!), experiments result in failure. Scientists can't succeed unless they learn to recognize failure as a step on the path to success. Recognizing this, the chief scientific officer at pharmaceutical giant Eli Lilly throws failure parties to celebrate clinical trials or scientific programs that were intelligent but that

nonetheless failed. This odd ritual makes scientists more willing to take intelligent risks, but it also encourages them to speak up sooner rather than later about a failing course of action. Failing is neither blameworthy nor shameful, but part of a valiant effort to generate new knowledge.

Most managers in business, however, feel a great deal of pressure to make sure that their product or service is perfect when it goes out into the world. This pressure affects the pilot projects that are designed to test the new idea. Managers are so eager to succeed (and understandably!) that they often design pilots that incorporate optimal conditions rather than representative ones. The result? Fragile



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successes. A pilot is meant to generate knowledge about what won't work, not simply affirm the genius behind the innovation. Pilots must be designed to fail.

To understand why, consider the Telco failure again. Before the full-scale urban launch, managers had run a small pilot in a suburb that housed well-educated, tech-savvy customers. The pilot was considered a soaring success. Unfortunately, pilot conditions were anything but representative of the large and diverse urban market in which the full-scale launch would take place. To make matters worse, the pilot was staffed by particularly expert and friendly service reps who were well versed in the new technology and could make it work for any customer's home computer setup. This small pilot was not so much a hypothesis-testing experiment as a demonstration project. It was designed to succeed—rather than to fail intelligently so that the full-scale launch could be a success.

What should Telco have done? First, the technology should have been tested in a small and unsophisticated market (old computers, fewer tech-savvy customers), with normal staffing levels to support it. The pilot should have been designed to uncover every little thing that could possibly go wrong—before announcing the new service to all customers. Managers would have been poised to reward intelligent failures and to help teams learn from them quickly to improve the product as well as the service that accompanied it. To generalize this lesson, Exhibit 1 lists a few questions that should be answered in the affirmative when designing the right kind of pilot projects—the kind that fail intelligently.

### Exhibit 1: Failing Well in Effective Pilot Projects<sup>4</sup>

*Managers of successful pilots must be able to answer “yes” to the following questions:*

- Is the pilot program being tested under typical circumstances instead of optimal conditions?
- Are the employees, customers, and resources representative of the firm's real operating environment?
- Is the goal of the pilot to learn as much as possible, rather than demonstrate to senior managers the value of the new system?
- Is the goal of learning as much as possible understood by everyone involved, including employees and managers?
- Is it clear that compensation and performance ratings are not based on a successful outcome of the pilot?



**Amy C. Edmondson** is the Novartis Professor of Leadership and Management at Harvard Business School. The Novartis Chair was established to enable the study of human interactions that lead to the creation of successful business enterprises for the betterment of society. Amy joined the Harvard faculty in 1996 as an assistant professor. Her research examines leadership influences on learning, collaboration and innovation in organizations. Her field-based approach includes research in contexts including health care delivery, manufacturing and executive decision-making. One stream of her work has shown effects of leadership behavior on a safe psychological climate, with implications for the quality and safety of patient care in hospitals. Another stream investigates management team practices that promote effective decision-making. Amy has published over 60 articles in academic journals, management periodicals, and books. In 2003, the Academy of Management's Organizational Behavior Division selected her for the Cummings Award for outstanding achievement and her recent article, “Why Hospitals Don't Learn from Failures: Organizational and Psychological Dynamics That Inhibit System Change,” received the 2004 Accenture Award for a significant contribution to management practice.

- Were explicit changes made as a result of the pilot program?

As the questions in Exhibit 1 demonstrate, managers hoping to successfully launch an innovative or novel product should not try to produce success the first time around. Instead, they should attempt to design and execute the most informative “trial-and-failure” process possible. This strategy for learning from *pilot-size* failures is a way to help ensure that full-scale, online services succeed.

#### Notes:

1. S. Sitkin, “Learning Through Failure: The Strategy of Small Losses,” in L. L. Cummings and B. Staw (eds.), *Research in Organizational Behavior* 14. Greenwich, CT: JAI Press, 1992, 231–66.
2. For the full Telco story, see A. C. Edmondson. *Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy*. San Francisco: Jossey-Bass, 2012, 234–52.
3. A. C. Edmondson. “Phase Zero: Introducing New Services at IDEO (A).” Harvard Business Case 9–605–069, 2004; and A. C. Edmondson. *Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy*. San Francisco: Jossey-Bass, 2012, 257–87.
4. A. C. Edmondson. *Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy*. San Francisco: Jossey-Bass, 2012; and A. C. Edmondson. “Strategies for Learning from Failure.” *Harvard Business Review* 89, no. 4, 2011. ■