

Planning for Innovation

Innovation is hard, but sometimes we make it harder than it needs to be. It's a lesson we could all use, but especially big companies betting millions on sustaining innovations. We like to think innovation begins with an inspiration, the proverbial light bulb, following by 99 percent perspiration (executing on the idea). We also like to think anyone can have that idea. As a result, we don't give due credit to the kinds of skills and resources you actually need to innovate, let alone to the planning necessary to develop them.

These skills and resources - call them capabilities - differ depending on what you're trying to do, where, and when. Trying to build a light bulb in 1878? You needed to learn glass-blowing first. A decade later and you'll need to know how to hire people who've done it before. The same with smartphones: Nokia had a hard time building a smartphone in the late 1990s; Google had a much easier go of it in the late 2000s (when designers, software, apps, cameras, batteries, contract manufacturers, and pretty much anything else you needed had been developed).

We often make innovation harder than it needs to be by not recognizing what capabilities we need and how to get them. I've talked about this before ([Innovation, Strategy, and your Innovation Strategy](#)). Bringing in the right people and resources before you start innovating enables you to better see what is happening now, what will happen next, and what could happen differently.



Consider the fate of several high-profile utilities companies that decided to make the leap into smart grid, installing smart-meters in their territories without any apparent innovation strategy.

Back in 2007, the smart grid was a perfect storm. It was a bold new initiative to fight climate change by increasing energy efficiency across our country's electric infrastructure. It was a huge growth opportunity, estimated at around \$30 billion, for IT companies like IBM and GE. And it promised to dramatically reduce operating expenses at our utilities.

Industry players like GE and IBM even bought Super Bowl ads selling the promise of smartgrid to consumers right alongside beer, chips, and Viagra. The ads showed the future, here already, and promised grand benefits to individual consumers, to businesses, to utilities, and to the climate.

That was when Xcel Energy announced their bold new initiative, called SmartGridCity, and began installing two-way communicating [smart meters](#). The utility began with the 50,000 homes of Boulder, Colorado, forecasting the project would cost \$15.3 million.

Almost immediately, the project began derailing. The technical performance of the network didn't work; the communications software didn't work; the new devices Xcel promised didn't come; and its value to customers wasn't clear.

By 2012, project costs had tripled. In 2011, they asked the Colorado Public Utility Commission for a rate hike that would pay them \$27.9 million; the next year, [they asked again](#) for Colorado ratepayers to pay an additional \$16 million. The project even [prompted the City of Boulder](#) to consider taking over the pilot and becoming a municipal utility. Nothing scares utilities like thoughts of secession within its territory.

In short, Xcel's leadership vastly underestimated what capabilities it would need to pull off this initiative.

The utility lacked the management skills to bring together the new hardware and software components, to design, build, and roll-out the new communications networks, and to design, build, and market compelling consumer devices that used the new information. And they failed Marketing 101 - the ability to design a product and communicate its value in ways customers that would make customers care.

Sure, these are not easy tasks. That's why it's called innovation. But they've been done before elsewhere, by many others, and they have been done since by other utilities in their own smart meter initiatives.

Xcel is not alone. Pacific Gas & Electric (PG&E) has had many of the same experiences. The Northern California utility also launched a \$2.2 billion rollout -- over 10 million homes -- in 2007 and became what one industry watchdog called "[the national poster child for now not to do smart meter.](#)" That rollout went so badly that it prompted a class action lawsuit, a state senator calling the utility's executives out for a public hearing, and a costly moratorium on the project.

What happened? Most utility companies have a set of capabilities, developed over the last hundred years, that enable them to deliver power cheaply and reliably, and to manage their costs and their customers (ratepayers, in industry parlance) through the utility commissions that regulated them and set their prices.

Rolling out a smart grid requires capabilities these companies never needed before (including customer service as if customers had a choice). But that doesn't mean these capabilities are hard to get.

Compare these experiences to our own. [SMUD](#) started its own smart meter initiative in late 2009 and completed it, across 600,000 residences and businesses, in 2012 on time and on budget. Widely considered a major success, it [won the 2012 Smart Utility Award](#) with special notice for its focus on the community as the "primary benefitting entity."

The team at SMUD developed a sound business case that outlined what it would require for the roll-out, and the resulting system, to work well. They recognized the importance of customer acceptance, and dedicated efforts to inform customers of what the smart meters were, what they did (and could do), how and when they would be installed, and live agents to talk to anyone who had questions. They developed new services (like the new smartphone app that enables consumers to pay bills, manage their accounts, and view outages and restorations in real time) and radically improved old ones (like remotely turning on and off services for customers).

As well, SMUD had already developed strong technical skills within their own R&D and engineering groups that gave them the ability manage launching a new system, at that scale and without sacrificing reliability, privacy, and security; and the ability to set specifications for the new meters, communications network, and software accordingly.

Finally, SMUD took time to understand and plan the order, scale, and scope of the rollout. For example, building the communication network and testing it extensively before installing and connecting the individual meters; as well as building and testing the communication with the consumers.

In the end, innovation isn't easy. But taking time to figure out what capabilities you need to meet each new opportunity or threat, and which you have or don't have, can spell the difference between success and failure.

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