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# Agility lessons from utilities

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The industry faces pressure on its core businesses and unexpected digital competition. Evaluating the external environment and making bets more quickly will be decisive for incumbents.

**The utility industry** offers a fascinating microcosm of the challenges facing legacy companies today. Its sprawling base of heavy assets amplifies the forces of inertia, while agile-by-nature digital players nip at parts of the value chain once considered immune to competition.

Utilities need a nimble strategic response to both of these challenges. In the core businesses—the generation and distribution of energy—companies scramble to address the uncertainty and volatility manifested in sudden policy shifts on nuclear power, skyrocketing demands to ramp up renewable energy, and the possibility of high-stakes (and profit-draining) regulatory changes for carbon prices and often dirty backup power plants. At the same time, new technology is steadily reshaping the energy sector: the falling cost of solar power makes historical scale economies less valuable as distributed generation becomes more feasible. And digitization is disrupting traditional areas of business and enabling new ones (see sidebar, "Digital dilemma," on page 4).

Utilities aren't alone, of course, in their need to manage both new horizons and valuable legacies. In the automotive sector, capital-intensive value pools based on production expertise are yielding to service offerings such as car sharing. Digital and communications technologies are propelling innovation in connectivity for vehicles, autonomous driving, in-car "infotainment," and other areas. In global banking, digitization has reached an inflection point: for example, it is expected to penetrate a third to nearly a half of all

European revenue pools by the decade's end, according to McKinsey analysis. With legions of digital competitors emerging, traditional banks are under pressure to match disruptive new business models while maintaining valuable customer relationships.

In a companion piece (see "Why agility pays," on mckinsey.com), our colleagues present new research findings suggesting that agility of the type needed by many industries that are now in flux calls for a balance between speed and stability. They argue as well that companies capable of striking this balance are dramatically more likely to show strong performance and organizational health. Independently, we have been working closely with a wide range of utilities to explore how the sector can best adapt to its challenges. What emerges not only demonstrates the wider case for agility but also highlights the opportunities and challenges associated with its pursuit.

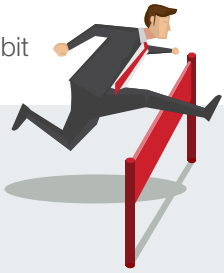
This article describes how the more farsighted utility companies are doing things differently in four critical areas: sensing opportunities, seizing them across new and legacy businesses, going beyond traditional corporate boundaries, and creating an organizational design and new ways of working to balance flexibility and stability (exhibit).

## Agile sensing

Many utilities have a fortress mentality that inhibits the adoption of new ideas. Their information-seeking infrastructure is often underdeveloped—in an era of information networks and crowdsourcing, they rely on conventional (and often one-dimensional) ways of gathering market intelligence.

Nimble information gathering produces a better foundation for strategic decisions and a more diversified flow of ideas for innovation. For this reason, first-mover utilities have established outposts and venture-capital (VC) arms in Silicon Valley, where they systematically test their own tech innovations, search for new ideas, and tap information flows from energy start-ups—often through their VC partnerships. (For more on this subject, see "How should you tap into Silicon Valley?," on mckinsey.com.)

Exhibit



**Agile companies focus on three aspects of strategy—and the right organizational design.**

| Sensing | Seizing | Bursting company boundaries |
|---|---|---|
| **Mobilize the entire organization**<br>• Practice nimble information gathering<br>• Exploit new digital possibilities, drawing on insights from diverse and unexpected areas of the organization | **Reallocate resources dynamically**<br>• Scale up initiatives rapidly with a "fail fast, fail small" mind-set<br>• Employ flexible financing | **Exploit complementary skills across the value chain**<br>• Engage in open-source collaborations<br>• Create networks for sharing complimentary skills with customers, suppliers, and industry partners |

**Combining flexibility and stability in organizational design**

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As energy moves from a commodity to a product wrapped in information, building digital skills will be crucial to develop the value of customer data. Ideas for exploiting new digital possibilities may come from diverse and unexpected areas of your company. Utilities and other traditional businesses should therefore follow leading-edge open-innovation approaches, such as competitions and "hackathons" to spark creativity and online platforms to manage the flow of bottom-up ideas across the entire organization.

## Seizing opportunities

Fresh ideas are just a starting point; companies must also seize emerging opportunities. As in many sectors, utilities too often ground their decision making and allocation of resources in static financial planning, which is hindered by the cumbersome dynamics of existing businesses and a strong internal focus.

Yet a number of European and US renewable-energy players we know with strong growth pipelines have used financial innovations

## Digital dilemma

Like most of the economy, the energy sector faces huge challenges from digital disrupters. Internet technologies are breaking open the traditional value chain, driving down interaction and transaction costs. Customers can now plug their consumption data directly into a utility's computer system and shift usage to lower-cost, nonpeak periods. These changes have already triggered new business models characterized by customization and a laser focus on the customer.

One cutting-edge shift is e-mobility, the electrification of cars. Another is the range of power-to-heat technologies that can exploit the excess capacity of cogeneration and of wind power. The hypergranular real-time metering of home appliances could turn power consumption into a big data play, opening vast new windows on the behavior and preferences of customers. Meanwhile, "digital natives" with the technology and analytical firepower to build a data-driven level of the energy economy are moving in to take advantage. Can agile incumbents open up new vistas themselves and roll with advances in technology?

The risk of missed opportunities is all too apparent from the example of the telecom industry. Its incumbents, caught unawares by the rapid shift to mobile speech and data beginning in the late 1990s, ceded a sizable share of growing value pools to new entrants—those, for example, that could profit from the rapid growth of mobile apps.

In utilities, we see a similar potential for large (though still unknown) value pools. Centralized, asset-heavy production of electricity won't disappear. But legacy economies seem likely to change, creating possibilities to consolidate traditional assets and placing a premium on operational excellence. Utilities must also explore new horizons in renewables; in downstream markets; and in digitally enabled, customer-centric business models.

to attract external funds on favorable terms. Some have established so-called growth or return yieldcos, which bundle renewable assets for sale to private and institutional investors, or forged partnerships with investors such as pension funds for specific projects. We've also recently seen utilities rethinking their processes for pursuing fast-moving opportunities:

- One utility's standard top-down allocation process was tied to internal incumbent stakeholders, so little was left for innovative projects. This company found that reforming its budgeting process was the best path to a more dynamic allocation of financial resources. It now sets aside part of its budget for new projects and has established a more rigorous funneling process to ensure that the best ideas get funding—and that failed ideas die quickly.

- Another large utility developed a framework for rating projects by risk/return profile. It classified more than 150 of them, identifying those that had not only greater risk but also greater returns, which could bolster the company's performance in slower-growth scenarios. It balanced its overall level of risk by identifying projects, suitable for more robust market conditions, with relatively moderate returns and dangers. The company can now respond rapidly to different market developments by shuffling the pipeline, using the rating system for guidance.

- A European utility established a committee, which included an independent, financially savvy challenger, to reframe and debias investment decisions and establish clear criteria for judging priorities. At the operating level, the company shifted to more rapid prototyping: a stage-gate process helped it to make "go/no-go" decisions more quickly and to create "speedboats." One of them involved a quick, early-stage test of interactive videos for customers whose power consumption had increased significantly and were likely to experience "bill shock." These explanatory videos helped reduce customer churn by 80 percent from forecast levels. Building on this success, the utility created a range of videos on customer issues posing a risk of churn.

## Bursting boundaries

An inward bias frequently makes utility leaders reluctant to share talent and operating knowledge or to look beyond company boundaries. These inhibitions hinder collaboration outside traditional industry areas—a sizable penalty at a time when utilities should partner with players that understand the rising power of customers.

Riding the sector's wave of change means engaging, in new ways, with a broader ecosystem. Many companies will have to rethink their boundaries and even what business they're in. Although utility leaders naturally fear the dilution of core strengths, company and sector boundaries have been redrawn in some industries for years, often through digital communications.[1] It's time for incumbent utilities to embrace these changes.

That could take the form of new open-source collaborations, partnerships, or minority investments with start-ups and innovative niche players to take utilities out of familiar territory and provide a range of possible outcomes rather than contracted goals. For example, one utility we know partnered with a venture-capital fund to get a window on energy-related start-ups and emerging ideas that needed financing. It now gets preferential rights to invest in the VC's portfolio companies, many built on digital platforms that drive down the cost of transactions with customers.

Utilities should also create networks that help customers, suppliers, and industry partners to share complementary skills. After all, they have not only huge stores of information about market conditions and customer needs and preferences but also big patent portfolios. These are valuable assets to trade for knowledge and the right to collaborate with start-ups.

## Balanced organizational design

Underlying all this should be an organizational design that gives fast, agile problem-solving teams a stable foundation of core functions. To understand how this dynamic tension operates, consider the experience of a utility we know that made an early move into large renewable-energy sources.

The company began by setting up a renewables unit that operated independently, with a culture and capabilities akin to those of a start-up. Frontline teams ran hard to navigate an array of regulatory demands, to assess potential project partnerships, and to model tariff regimes for setting prices, but they had difficulty scaling up

[1] For an early description of these dynamics, see John Hagel III and Marc Singer, "Unbundling the corporation," *McKinsey Quarterly*, June 2000, on mckinsey.com.

this business amid so much change. Senior management then decided to assess the renewables value chain to make its risks and volatile returns (compared with those of the legacy business) more transparent.

Leaders addressed these issues in several areas:

Project finance. The company's central finance unit identified institutional investors that were seeking returns in renewables and would be willing to invest in individual projects.

Risk management and deal making. Specialists helped the new renewables unit to forge partnerships that distributed financial risk and satisfied government demands for local participation and ownership.

Culture. The company started out with a linear, one-project-at-a-time mentality, governed from the center. This has gradually given way to a mind-set that's comfortable with locally made decisions—the project teams are now fully responsible for managing the performance of the team members (as well as the project) while the business line focuses on capability building and the codifying and sharing of best practices. Teams attuned to the regulatory and competitive environments therefore have more control, while the company's core values—technical excellence and high levels of execution—remain the guiding framework.

The hybrid organizational design that's now emerging isn't just propelling the renewables business forward; it's also rubbing off on the core business.

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