IBM Global Business Services

IBM Institute for Business Value

Energy and Utilities

Plugging in the consumer

Innovating utility business models for the future

Historically, the relationship between utilities and consumers has been rather lopsided – utilities had the power, both literally and figuratively. But the confluence of climate change concerns, rising energy costs and technology advances leading to greater consumer involvement is now radically redefining that relationship. Our recent surveys of 1,900 energy consumers and nearly 100 industry executives reveals major changes underway – a more heterogeneous consumer base, evolving industry models and a stark departure from a decades-old value chain. We believe companies need to prepare now for a participatory network that enables customers to choose from a wide variety of supply options, actively manage their consumption and even sell back surplus power they generate.

In decades past, as long as the energy flowed when and where required, residential and small commercial customers were satisfied with leaving all the decisions about their energy supply to their trusted providers, even if they were unhappy with the bill. But times have changed. Growing reliability concerns, fear for the environment's future, and ever higher energy bills have some consumers wanting to manage more of their energy supply decisions themselves. If utilities and regulators allow them to be more active participants, these customers are willing to shoulder more responsibility.

Given this shift in consumer attitudes and the rapid advancement of new technologies, what will the industry look like in five to ten years? How quickly will utilities and regulators respond to these emerging consumer needs? And how much control do consumers really want?

To help answer these kinds of questions, we surveyed 1,900 consumers from six countries in mature economies. In our "consumer" group, we included residential households and small commercial customers, but excluded large commercial and industrial companies. We also interviewed nearly 100 industry executives in Europe, North America and the Asia-Pacific region – one-third from large firms with revenues greater than US$5 billion and the remainder from smaller utilities.

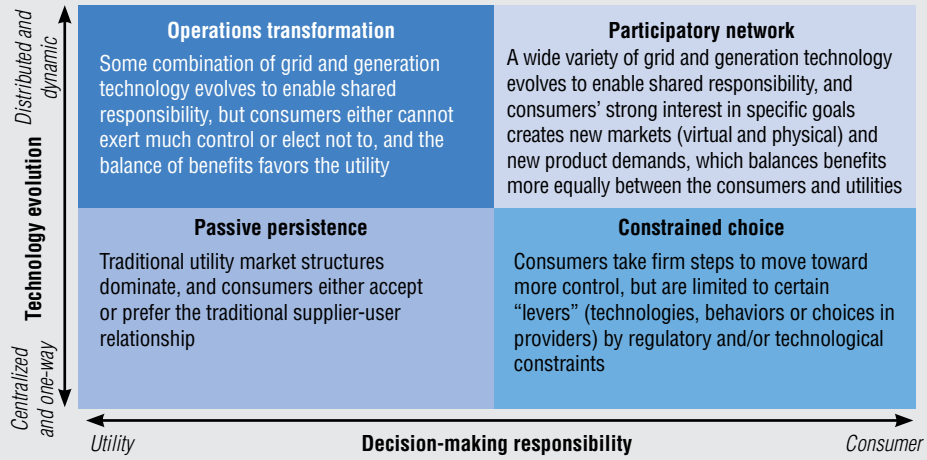
Based on the insights from our consumer survey, interviews with utility executives and investors, and our own consulting experience, we anticipate a steady progression toward a Participatory Network, a technology ecosystem comprising a wide variety of intelligent network devices, distributed generation and consumer energy management tools. In the interim, before the necessary technology, consumer interest and regulatory enablers are fully in place, utilities may move to one of the other possible utility models: Passive Persistence, Operations Transformation or Constrained Choice (see Figure).

In anticipation of these shifts, we believe utilities will need to reevaluate how they segment and serve customers. Substantial changes in how the industry generates value should also be expected, as revenue models move from being centered solely on energy flows to focusing on both energy and information. Burgeoning information flows and evolving consumer demands will attract a new cadre of competitors eager to take their share of new product, service and business model opportunities.

Leveraging the new technology ecosystem will help utilities harness innovation to meet key objectives in coming years, including:

- Preparing for an environment in which customers are more active participants
- Capitalizing on new sources of realtime customer and operational information, and deciding which role(s) to play in the industry's evolving value chain

If consumers elect to take more responsibility for their energy usage, they will reap more benefits from technological advances.



Source: IBM Institute for Business Value analysis.

- Better understanding and serving an increasingly heterogeneous customer base.

The utility industry is fast approaching a tipping point beyond which consumers can, and increasingly will, demand equal footing with their providers. Those utilities that are fully prepared to share responsibility with their customers and help them meet their specific energy goals will have a significant competitive advantage.

How can IBM help?

- ***Strategy and Change, Business Model Innovation, and Intelligent Utility Maturity Model:*** Help you define a company-specific strategy for moving toward a Participatory Network, and manage change as the key industry drivers evolve
- ***Component Business Modeling (CBM) tools and Service-Oriented Architecture (SOA):*** Help with selecting where to focus your organization and building flexible IT infrastructures for the future
- ***Selected Energy and Utilities Solutions and Offerings:*** Intelligent Utility Networks (Advanced Meter Management and Network Automation Analytics), Customer Operations Transformation and Power Generation Optimization

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