



# Enhancing Customer- Centricity

Growing New Relationships

**BY AHMAD FARUQUI AND HENNA TREWN**



For decades, utility strategy has been dominated by an engineering mindset, focusing on the generation, transmission, and distribution of electricity. The customer has not played much of a role in guiding business strategy, even though it was the customer’s consumption that delivered the revenues for utilities to stay in business and prosper.

Unsurprisingly, customers at various times in the industry’s history have been called a load, a meter, or a ratepayer. Thus, customer research in the utility industry has often been carried out in a desultory fashion, as an afterthought, and has been underfunded.

Activities inside the customer’s premises have been unglamorously dubbed ‘behind-the-meter’. What if a retailer like Nordstrom were to describe what the customer does with their fashionable merchandise as ‘beyond-the-cash-register’? Would any business survive if it had such a closed mindset toward its primary revenue-producing asset, the customer?

In 1960, Ted Levitt began his iconic “Marketing Myopia” essay in the Harvard Business Review with these words: “Every major industry was once a growth industry.” He went on to say that industries that were once thought of as seasoned growth industries had stopped growing.

Levitt argued that in every case it was not that the market had stopped growing. The fault was with management that had defined the industry’s boundaries too narrowly.

To Levitt, railroads were the poster child of failure. The need for passenger and freight transportation had not disappeared: that need had grown with time. He writes that the railroads were in trouble, “not because that need was filled by others (cars, trucks, airplanes, and even telephones) but because it was *not* filled by the railroads themselves.”

He goes on to say: “They let others take customers away from them because they assumed themselves to be in the railroad business rather than in the transportation business. The reason they defined their industry incorrectly was that they were railroad oriented instead of transportation oriented; they were product oriented instead of customer oriented.”

Back then, electric utilities were a growth industry. Yet Levitt cautioned against taking that growth for granted. Presciently, he saw threats arising from fuel cells and solar power. In a similar vein, he cautioned the petroleum industry, which was also a growth industry, against threats arising from electric vehicles.

Turning to the electricity industry, annual electricity sales growth was in the seven percent range in the 1950s and 1960s. It slowed down to three percent after the energy crises of the 1970s. It is now projected by the U.S. Energy Information Administration to be less than one percent for the next quarter century.

**Ahmad Faruqi** is a principal with The Brattle Group. He has worked for more than 140 clients on five continents and authored more than a hundred articles, papers, and books on energy economics.

**Henna Trewn** is a research analyst with The Brattle Group. She supports utilities, energy companies, and government organizations across North America, Europe, and Australia on ratemaking methodology, renewable finance, market development, rate design, and business risk.

## Many customers subscribe to a green lifestyle and routinely engage in displays that can best be described as Green Pride.

### Digitalization of the Home

Some of the explanation for declining electricity consumption may lie in the emergence of the Internet of Things, which is leading consumers to engage in organic conservation. This includes the widespread proliferation of LED lights,

Wi-Fi thermostats, digital appliances that feature Internet connectivity, and home energy control systems. They all speak to the major end uses of energy in the home.

At PJM’s Grid 2020 conference in 2014, the representative of a major manufacturer of thermostats said most web searches were being carried out over smart phones. He added that his company was unable to produce Wi-Fi thermostats fast enough.

When asked why a consumer would want that feature in a thermostat, he said people wanted to be able to adjust their thermostats from their office or from wherever they were on vacation. Some even wanted to adjust them while watching their favorite shows on TV.

While these reasons may not sound compelling or fit within our definition of ‘hard’ benefits, they are real. The manufacturers are complying with consumer desires.

### Desire to Go Green

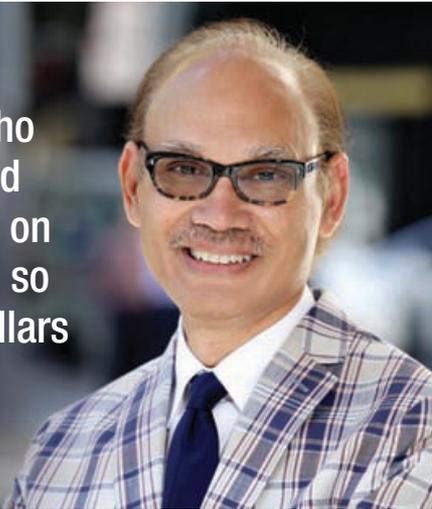
In the past five years, residential consumers have begun turning into energy producers on an unprecedented scale, primarily by installing rooftop solar panels. This trend is reinforced by the federal income tax credit of thirty percent, the falling price of solar panels, and the cross-subsidies that solar customers realize from net energy metering with largely volume-based rates.

Yet our anecdotal conversations with four dozen homeowners, contractors, realtors, and solar firms reveal an important fact: utility customers are not installing solar on their roofs just to save on their utility bills.

Many are doing it to save the planet. Others are doing it to let their neighbors and friends know that they are helping save the planet. Some are doing it simply to feel good. “Conspicuous conservation” is in vogue, as the behavioral economist Neil Lessem puts it.

“It is not obvious why someone who spends a hundred thousand dollars on a Tesla would do so to save a few dollars on gas.”

— *Abmad Faruqui*



Electricity remains a commodity. The consumer will always have a desire to save the money that he or she spends on a commodity. However, being green is now a new social standard. Many customers subscribe to a green lifestyle and routinely engage in displays that can best be described as Green Pride.

Larger commercial customers such as military bases and university campuses are installing microgrids. Hospitals are contemplating similar investments. These customers are also planning to install large-scale battery storage or stationary fuel cells.

Industrial customers, in a desire to improve their competitiveness by lowering their energy bill, are giving renewed consideration to cogeneration, or combined heat and power. Even global technology companies such as Apple, Facebook, Intel, Google, and Microsoft, and large retailers such as Kroger and Walmart have set renewable and clean energy goals.

The desire to self-generate electricity among mass-market consumers may seem like a new development that is specific to the utility industry. But that is not the case. It permeates the economy. Joseph Pines and James Gilmore described it as far back as 1998 in their book, *The Experience Economy*.

The book describes how Americans have shifted from being passive consumers to becoming active participants. The book goes on to note that it is no longer sufficient for companies to produce goods and services. They also must produce a rewarding experience that consumers will treasure. Neither is it sufficient to offer choices. Too many choices can overwhelm consumers,

forcing them to make a choice with limited knowledge of their own preferences. That almost ensures buyer's remorse and gives rise to the paradox of choice. People don't want to be confused with choices. They just want what they want.

We are also observing a move toward zero-energy homes. The trend is epitomized by the West Village community, which is located across the freeway from the University of California, Davis campus.

Elsewhere, customers are moving into hybrid homes that use only a quarter of the energy of conventional homes. One developer is able to provide this capability in new luxury homes in Alberta, Canada, for an incremental cost of fifty thousand dollars, or just five percent of the cost of a million-dollar home.

Another new development has been the emergence of the electric car, from low cost models such as the Nissan Leaf to high cost models such as the Tesla. Many analysts were quick to conclude that people were buying electric cars to save money on their gasoline bills.

Yet it is not at all obvious why someone who spends nearly a hundred thousand dollars on a Tesla would be doing so just to save a few dollars

at the gas pump. Anecdotal conversations reveal that people buy these cars to make a statement that they care about the planet, that they have the money to buy a car that accelerates from zero to sixty in less than four seconds, and that they can drive in the carpool lane with a single occupant.

In some states, community choice aggregation has emerged as a new challenge for utilities. California is the poster child. Once enabling legislation was passed, it spread like a prairie fire. Some analysts are anticipating that utilities in California may lose more than half of their load due to this phenomenon in the next few years.

It is amazing that no one saw this coming. Utilities missed a strong desire among consumers to buy less expensive power from renewable energy resources. They also did not realize how cities could be drawn to community choice aggregation, not only to make their residents happier but also to generate additional revenue to support their social programs.

Utilities are also facing strong pressure both from state governments and their customers to enhance the portion of renewable resources in their generation mix, as well as to support demand response, energy efficiency, and other distributed energy resources.

### Recognize Shifting Customer Needs

The utility industry has been slow to recognize structural changes in how people use energy.

When the energy crises of the seventies took place and

electricity prices shot up, many executives continued to believe that load growth would remain at the pre-1973 embargo rate of seven percent per year.

It took them a long time to realize that there was such a thing as price elasticity of demand, particularly for electricity. The argument that electricity was a necessity and thus totally price insensitive was proven wrong. The maxim of MIT's Morris Adelman – "A shift in relative prices acts like a glacial drift, imperceptible in the short run, irresistible in the long run" – was proven right. Not just for oil markets, his topic, but also for electricity prices.

As absolute demand for electricity declined, utilities have begun to establish more cost-reflective rate design. Some are transitioning from the traditional residential two-part rate consisting of a volumetric and monthly fixed charge to three-part rates. Those rates account for customer demand, typically during the system peak when wholesale electricity costs spike.

Others are using time-varying rates as another method of shifting consumption away from those peak hours. Some utilities have even explored real-time pricing, critical peak pricing, or charging fixed fees for the explicit fixed costs of the local grid. Others have offered demand response services or incentives for energy efficiency.

Yet we do not have much information on the customer's perspective on these methods. Take the case of energy efficiency. For years, the industry thought that customers cared about energy efficiency. They don't. It is a concept that is only of interest to engineers.

This was very evident at a recent town hall meeting in the city of Dublin, California. Some fifty homeowners had gathered one evening to listen to presentations by energy experts. As the discussion progressed, it became very clear that homeowners were not just interested in saving energy, even though that was an objective. More importantly, they wanted to be comfortable, in control over their lives, doing something good for the planet, and, yes, saving money. When it came to energy, they wanted style as much as efficiency in their appliances, light bulbs, and windows.

All of this suggests what Peter Drucker famously noted in 1992: "The most important structural trends are those that many executives have never heard of." He went on to say: "Uncertainty – in the economy, society, politics – has become so great as to render futile, if not counterproductive, the kind of planning most companies still practice: forecasting based on probabilities."

A customer-centric approach to product and service design and planning can increase a utility's resilience. Not only to the variability of customer preferences, but also to the regulatory trends that follow.

## Innovating through Design

Tim Brown, author of *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*, says that there are three stages in the design of new products and services.

The first stage is inspiration, in which insights are gathered from every possible space. Some people call this white boarding while others call it brainstorming. The second stage is ideation, in which those insights are translated into ideas. The third stage is implementation, in which the best ideas are developed into a concrete, fully conceived plan of action.

Of course, ultimately, success or failure will depend on how the product or service fares in the field. It is only in academia that research is pursued as an end in itself. In the business world, research has to be focused on meeting customer needs.

Quoting Peter Drucker, Brown says that the job of the designer is to convert need into demand. That is a very fundamental point. Many people confuse desire or need with demand. But as Alfred Marshall noted in his classic work, *The Principles of Economics*, demand is desire backed by purchasing power.



Until a consumer is willing to buy a product, there is no demand. The best way to begin the process is to put the product in the field and then engage in what marketers call test and learn. Nobel Laureate Kenneth Arrow called it learning by doing.

Failure is routinely expected in Silicon Valley, a place that has germinated more new products and services than probably any other place in modern times. Brown's advice on that topic is to "Fail early to succeed sooner."

## Conclusions

The traditional device of cost cutting as a way of improving competitiveness – the first line of defense – will take utilities only so far in enhancing their future readiness. As noted by Frank van den Driest, Stan Sthanunathan, and Keith Weed in their September 2016 article, "Building an Insights Engine"

*(Cont. on page 70)*

## CEO Interviews on Innovation

(Cont. from p. 23)

Our industry has regulations. There's a high penalty for failure. You have to rewire the culture to embrace failure. Try multiple things. If they don't take off, value the learning opportunity.

That's hard to juxtapose with the typical regulatory model, a compliance-focused model. You have to help define where is it okay to have that kind of failure, and where is it not okay. Obviously, it's not okay to have the lights out. However, it is okay to try an experiment and know that it may or may not work. That's one piece of it.

Second is finding ways to deploy an X-Change Program like the one I mentioned, that's very visible inside the utility. It's got executive sponsorship. It's now sponsored dozens of teams that have done some good things.

Sometimes it might be something that saves us a hundred thousand dollars. Sometimes it might be something that saves us more, or creates an improvement in the customer experience.

Deploying that out there quickly, and in a visible way, helps people address problems. We've got twelve-thousand five-hundred

employees. Most of them are a lot closer to parts of the action than I will ever be.

How do you empower them and give them the tools for it? Just creating a sense of support, and a sense that it's okay to try things out.

Knowing that they may not be perfect. But this is about learning.

**Tom Flaherty:** Do you have any parting lessons learned for your counterparts?

**Edison's Pedro Pizarro:** Two quick ones. Putting power in employees' hands is a wonderful thing.

## You have to help define where is it okay to have failure, where is it not okay.

I've sat down with multiple employees who have taken projects to the X-Change Program. They're energized. I think those are folks who will be retained for a long time.

The second is that our industry's going to change so much. The economy as a whole is going to change a lot. Data analytics and artificial intelligence are going to radically transform not only the things we do in the core part of the business, but also in the back office. This is a common theme across the economy. We're just starting to scratch the surface. **PUF**

## Enhancing Customer-Centricity

(Cont. from p. 49)

in *Harvard Business Review*, "the new source of advantage is customer-centricity: deeply understanding your customers' needs and fulfilling them better than anyone else."

Insights flowing from this deeper understanding of customer needs will liberate utilities from thinking that they are trapped in a shrinking bubble. It will let them penetrate existing and new markets better, take their existing products and services to other markets, and develop new products and services for existing and new markets.

The utility industry is heavily regulated and business decisions are often intertwined with public policy goals. A customer-centric point of view can help utilities develop services or adapt to achieve these goals, for example by investigating why customers do or do not take advantage of certain pricing schemes.

Companies that fight change are fighting the future. If they embrace change, they will embrace the future. Amazon's Jeff Bezos embodies this spirit. In a recent letter to shareholders,

## Customers are always beautifully, wonderfully dissatisfied, even when they report being happy and business is great.

he says the best way to avoid corporate decline and death is to be customer-centric:

"Why? There are many advantages to a customer-centric approach, but here's the big one: customers are always beautifully, wonderfully dissatisfied, even when they report being happy and business is great."

"Even when they don't yet know it, customers want something better, and your desire to delight customers will drive you to invent on their behalf. No customer ever asked Amazon to create the Prime

membership program, but it sure turns out they wanted it, and I could give you many such examples."

His counsel: "experiment patiently, accept failures, plant seeds, protect saplings, and double down when you see customer delight." He could well have been speaking to a gathering of utility CEOs. **PUF**

"Wit and humor. If any difference, it is in duration. Lightning and electric light. Same material, apparently. But one is vivid, and can do damage. The other fools along and enjoys elaboration." Mark Twain, a friend of Nikola Tesla.