

Customer- centricity and the new utility:

trends & recommendations
for incumbent utilities in a
changing electricity sector

By: Andre Richter
Principal at the U.S. office of innogy Consulting

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Customer-centricity and the new utility

Abstract

How electric utilities think about servicing their customers has changed dramatically in recent years. Increasing customer demand for more tailored energy solutions, coupled with growth in new product innovations, has created a new commercial environment. This new world will be more competitive than anything utilities have previously experienced. Success will require utilities to embrace the changes reshaping how energy services are delivered. It will also force them to focus more sharply on delivering customer-centric solutions.

This paper discusses some of the important contemporary drivers reshaping the competitive landscape for U.S.

electric utilities, particularly those relevant to the residential customer base. It examines the options available to incumbent utilities as they look to adapt to the new reality of a more engaged and empowered energy consumer. The paper highlights the need for utilities to increase their focus on offering customer-centric products. It also emphasizes the necessity to embrace technologies that have already disrupted the sector. To close, it includes thoughts on how utilities can accelerate their response to the new commercial realities they face to support long-term success.

Customer-centricity and the new utility

Today's electricity sector is being disrupted by the rise of the empowered prosumer. New technologies are changing how electricity services can be delivered, and customers of every scale are becoming much more aware of the greater choice available.

Looking ahead at the next 10 to 15 years, even in a "business as usual" scenario, we expect a different electricity retail landscape to take shape. As an illustration, average electric rates have increased significantly less than overall consumer prices, and have even fallen in some areas.¹ Add the increasing number of prosumers and stagnating overall load caused by more efficient households, and incumbent utilities that





do nothing can expect a tough future. It is worth noting that some of these trends and developments may grow exponentially, not gradually, and be highly disruptive. They could be triggered by technological advancements, customer preferences or even legislation. California just passed new Building Energy Efficiency Standards, which mandate that new homes have solar power and provide incentives for energy storage. This will not only expand the number of renewables in the state, but will also increase the number of households that don't depend on a utility for electricity delivery. Some could even go off-grid completely, and the falling prices of solar panels and battery units further support this trend. Batteries for residential storage currently cost as little as \$500 per kWh, and regular residential solar

¹ BLS (2018)

panels can be bought for roughly \$3,000 per kWp. The expected payback period for such an investment could soon be less than five years for customers in some U.S. states.² Such a development may tip the scale from niche to mass market.³ Meanwhile, the adoption of electric vehicles is picking up and a changing electricity market requires new energy management solutions, beyond the classical commodity business. This also holds true for a synthesized scenario, in which business as usual and the disruptive scenario are merged into a scenario of “continuous transformation.”

It is imperative that utilities begin to plan for and adapt to change, given the potential arrival of a very different commercial environment. This paper reflects on a number of the dynamics that are beginning to reshape how customers think about their electricity services. It examines the challenges these trends pose to the current utility business model. And, most importantly, it deals with the options available to utilities to mitigate the potential negative commercial consequences of these changes – by becoming more customer-centric.

Illustration 1: Scenarios for future retail markets and implications for incumbent utilities

					
		As-Is	Scenario 1 Business As Usual	Scenario 2 Disruption	Scenario 3 Continuous Transformation
Customer	Avg. price per kWh for households	12.9 ¢	→	↓	↘
	Average yearly bill/household	\$1,422	→	↓	↘
	Amount of prosumers	5.4 mn	→	↑	↗
	Churn rate	Low	→	↑	↗
	E+ demand (beyond commodity)	Moderate	→	↑	↗
Utility	Main channel for customer interaction	Paper, calls	Paper, calls	Digital	Mix of digital and analog
	AMI rolled-out	71 mn households	→	↑	↗
Overall	Generation mix	83% Conv. 17% REs	Gradual REs increase	REs dominating	Significant REs increase
	Total yearly residential load	1,400 TWh	→	↓ ↑	↘ ↗
	Consumer choice available	18 states	→	↑	↗
 Implication for incumbent utilities: good, no change, moderately worse, significantly worse			<ul style="list-style-type: none"> • Current developments continue • No game-changing event occurs 	<ul style="list-style-type: none"> • Massive adoption of renewables, rooftop PV • Breakthrough in battery storage, communities go off-grid • EVs dominate car market • Next liberalization wave 	<ul style="list-style-type: none"> • Significant RE increase, also for residential areas • Storage prices fall further • Careful additional liberalization

² Petersen (2017)

³ Kaenzig and Wuestenhagen (2010)

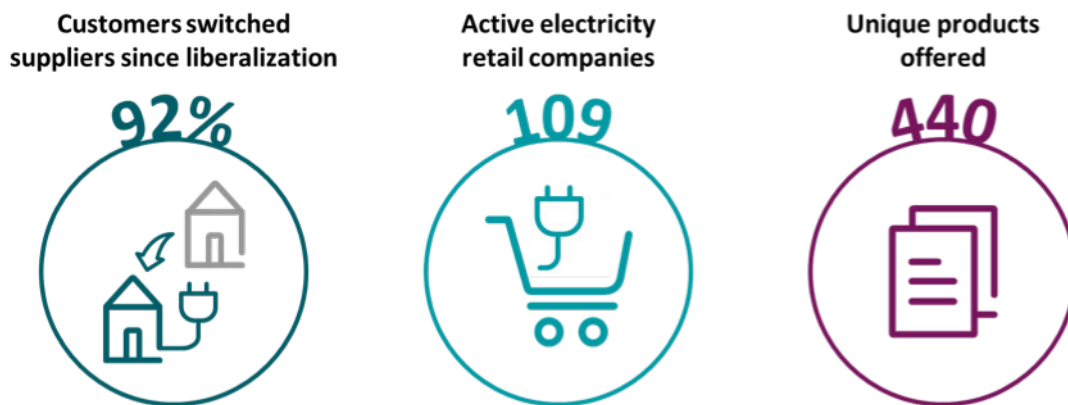
Features of the changing relationship between customers and their utility

1. Buyer power is increasing

For legislators, regulators, utilities and of course customers, the cost of electricity has always been a key issue.⁴ However, cost is not the only factor that matters to electricity customers. They might value service, reliability and resiliency, as well as environmental factors. Today, new technologies provide customers with much greater transparency on all these issues.

These technologies are being combined into newer and more varied energy products, and deregulation in many markets now allows customers to choose from a broader product portfolio. The situation in Texas is illustrative. Fifteen years after retail deregulation, more than 100 retail electric providers are now active and offering over 400 plans to customers – one-fifth of which are 100% renewable-based.⁵

Illustration 2: Key stats of Texas' ERCOT region with choice



These developments are a clear threat to incumbent utilities. A clue to how this scenario may progress could be found in Germany. There, the market share of the “big four” former monopoly utilities retained 85% of the market nine years after deregulation. But in the 10 subsequent years, that fell to 54% as that market gained diversity.⁶ In general terms, it appears that initial

market liberalization is often followed by a short period of relative inactivity during which most customers stay with their old contracts and new entrants test the water. However, once retail momentum and a broader set of products begin to build, customer churn surges.⁷ The U.K. is a case in point, with double-digit annual churn rates being the new normal.⁸

⁴ Congress (1992)

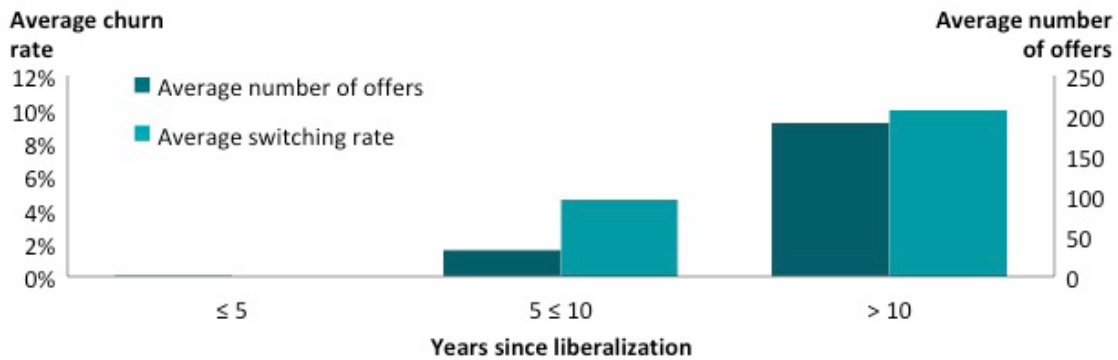
⁵ PUCoT (2017)

⁶ Bundestag (2017)

⁷ ACER/CEER (2016)

⁸ DBEIS (2017)

Illustration 3: Dynamics seen between market liberalization, product offering and churn rates



In markets with wider product offerings, customers who are not happy with their supplier will exert their option to switch. The resulting increased competition between retailers goes hand in hand with greater buyer power. The vast majority of Texans can choose their energy supplier, and many of those customers are actively doing just that.

Arguably, “marketers will find it increasingly hard to sell those goods and services which people can produce themselves.”⁹ This is why the emergence of the energy prosumer poses a new challenge to utilities. In the U.S., more than one million households have installed a PV panel on their roof, together generating 7,000 MW¹⁰ of their own electricity. Given the new legislation in California, this number will continue to grow. A lesson can be learned from Germany, where consumer solar started to surge a decade ago. German utilities that supported customers in installing rooftop PV were more successful in maintaining their market share.

2. Customers demand more convenience

Electricity supply is not immune from customers’ increasing demands for convenience. Indeed, it a key reason to switch supplier.¹¹ Customers are also becoming increasingly sensitive to how well they are served, and their overall experience. They cite poor quality as a prime reason to change suppliers.¹²

Having become used to personalized solutions, customers are now expecting them from utilities, too. As part of this trend, customers expect quicker response times and prefer communication in a digital environment (with customer service phone calls becoming less popular). Naturally, customers also seek to minimize time spent on non-value-adding activities, such as meter reads or bill proofreading. They expect utilities not only to get their statement right the first time, but also to offer value-added services instead of paperwork hassle.

3. Customers demand new offerings

“Electricity only” customers, while still constituting the lion’s share for many U.S. utilities, will become fewer and fewer in the U.S. Consider a classical energy C&I client, such as a hotel. Until a decade ago, they might have contracted electricity. But a couple of years ago, the first hotel guest might have shown up with her electric car, and all of a sudden, the hotel saw the need to add a charging station. Like several chains, the hotel might also decide to install a PV on its roof, to fulfill a corporate commitment to renewables.¹³ Utilities not capable of providing these types of products simply lose out on revenue streams. Bigger tech companies like Apple, Facebook or Google have moved from contracting renewable power to actually owning renewable assets themselves. Their former utilities lost out because they

⁹ Kotler (1986)

¹⁰ EIA (2017)

¹¹ J.D. Power (2014)

¹² Buell, Campbell and Frei (2016)

¹³ See, e.g., Starwood Hotels that partnered up with NRG to develop solar at their properties.

were not quick enough to ramp up their own renewable portfolio. Half a million electric vehicles and more than 40,000 charging stations in the U.S. are also creating a demand that utilities should be ready to service.¹⁴

Customers also increasingly prefer their utility of choice to offer comprehensive energy management solutions. They are increasingly walking away from utilities

altogether if they do not offer those complementary products.

Even if customers contract electricity only, they might still want a different type of offering. In Germany, for example, new market entrants gained significant market share from incumbent utilities by guaranteeing to source the electricity from renewable energy sources entirely.

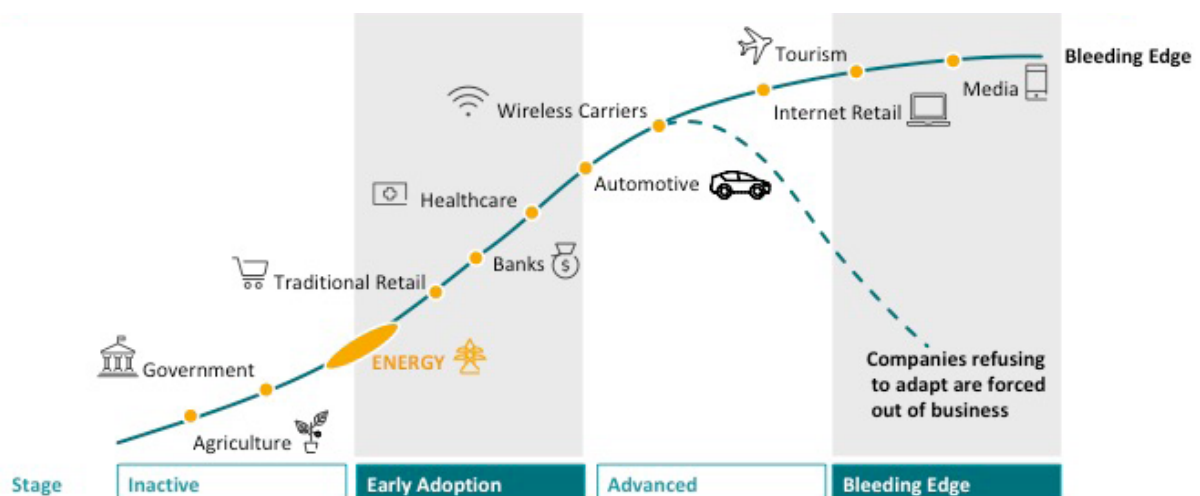
The challenge and set of key questions for utilities

Individuals find it easier than large organizations to adapt to a changing range of options and conditions.¹⁵ Customer preferences have radically changed in the last couple of years, but in some instances bigger organizations have been slow to adapt, not least because of the technical challenges involved. Lack of pressure to act is another factor. Many utilities – especially in regulated areas – are only indirectly affected by negative customer feedback. Many customers currently have limited options to change their energy supplier, so utilities can deprioritize customer satisfaction. As a consequence, utilities sometimes ignore the state-of-the-art technology needed to meet customers' changing preferences. Once these changes are significant, and place utilities in more direct

competition for customers with other suppliers, it will be difficult to catch up with the latest technology, and gain the commercial advantage.

Companies that have the experience and advanced solutions to make customers happy will be in a very good position to win over customers with a more appealing offering and cost structure. Other industries have already shown that new entrants that harnessed all that the state-of-the-art digital world has to offer were able to reduce costs and personalize product offerings. This in turn has challenged incumbent players, and even driven some out of the market. The good news is that there are ways for incumbent utilities to proactively prevent this scenario.

Illustration 4: Digital adoption across industries



¹⁴ OECD/IEA (2017)

¹⁵ Katz and Kahn (1966)

How to react

Walmart founder Sam Walton broke it down when he said: “There is only one boss. The customer. And he can fire everybody in the company from the chairman on down, simply by spending his money somewhere else.”¹⁶ For U.S. utilities, regulated or deregulated, this is or will soon be true. This is why targeting customer satisfaction is so important. Even utilities that don’t face competition for customers today should aim to maximize customer satisfaction because it will help them keep their customers in the long run. So in a way, utilities can benefit from thinking less like utilities and more like retailers. Here is how to do that:

1. Be customer-centric

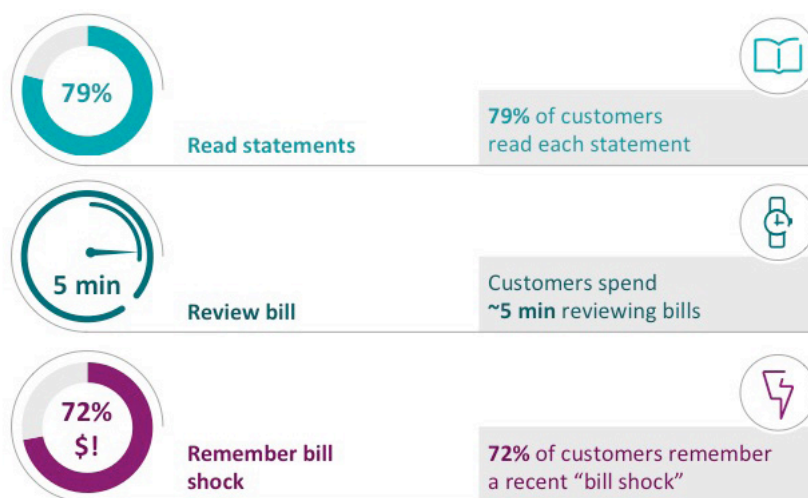
Customer satisfaction scores for utilities typically indicate substantial room for improvement when compared with other industries.¹⁷

The easiest way to make a utility customer unhappy is a power outage. But apart from preventing outages, utilities can do a lot more to create a positive customer experience – a key component of customer-centricity.¹⁸ Utilities can take greater care to avoid bill shock, often a trigger for discontent.¹⁹ Unexpected additional payments

can be a key driver for changing suppliers, next to the overall price. Utilities can draw on a couple of best practices: either preventively increase the monthly rate slightly, or signal to the customer that current consumption is more than expected (e.g., via an app or text message) – the latter also increases touch points with customers that can be used for other purposes.

When listening to the customer, it is also important to grasp prevailing sentiments and align accordingly. In Texas, utilities like CPS Energy and Austin Energy realized customers wanted a “greener” profile. They

Illustration 5: Customer key insights²⁰



¹⁶ Walton

¹⁷ ACSI (2017)

¹⁸ Shah et al. (2006)

¹⁹ Davis-Van Atta (2015)

²⁰ Van Atta (2015)

then committed to high renewable energy targets on a corporate level and now directly support customers in individual sustainability pursuits. In the Northeast, Green Mountain Power offers solar solutions and helps customers get off the grid, directly addressing a rising customer preference for decarbonization and decentralization.

Another strategy is to improve the “customer journeys” so that processes such as joining, paying or moving houses and changing addresses function seamlessly. Clearly identifying these core processes and organizing other activities around them helps companies approach internal procedures with the customer in mind. On the strategic end, this means updating Balance Score Cards (BSC), organizational charts, KPI systems and the like. On a more operational level, utilities need to develop and implement a target-operating model built from the customer journeys. This usually also necessitates changes to the IT landscape and processes. Utilities that have implemented and are organized along customer journeys have been shown to have higher cross-sell and upsell rates, as well as higher customer retention rates, while decreasing the actual cost to retain customers. Recent data suggests that customers prefer to go through the typical processes online (e.g., for changing their address after moving houses). In fact, electronic service quality is positively correlated with customer satisfaction and loyalty.²¹

Key recommended first steps: Identify the most fundamental customer journeys (usually paying bills or joining as a customer). Conduct a customer-centric end-to-end redesign of those journeys, understand drivers for customer values and assign clear journey “owners”

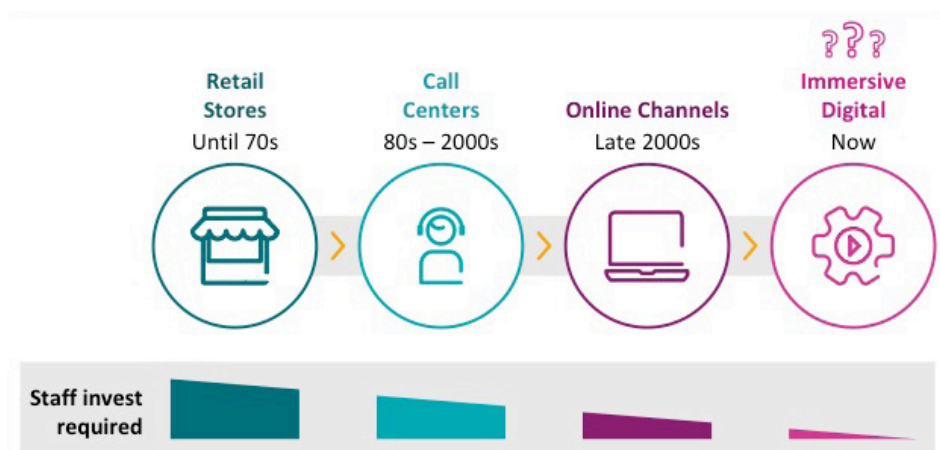
within the organization. Overhaul company BSC and KPIs to reflect customer satisfaction targets and initiate IT changes.

2. Embrace new technologies and data to offer superior services

Many utilities have accumulated a mass of customer data that makes even tech giants jealous. Taking into account legal and regulatory restrictions, this data can be used to offer superior services. In addition to personalized offerings, the data insights can also be used to improve the entire customer experience – for both existing and potential future customers. Utilities can redesign their customer-facing communication, such as websites or apps, with clear personas in mind. An environmentally conscious customer will have different preferences than a value-add-oriented customer, for example. Meanwhile, clear cross-industry evidence shows that when a website adapts layout, content or even actual offers to a browsing customer’s persona, more conversions can be generated.²²

Customers generally like apps, and utilities generally dislike cash payments. Offering payments via an app on dates chosen by the customers could encourage customers to move away from cash, ultimately helping utilities while increasing customer satisfaction. Apps also offer a valid way to come to terms with the processing and usage of customer data: most customers accept and permit the company behind the app to use more of their data in turn for superior functionality and value-add. For many utilities, this can be a safe environment to test first steps in the business of personal data. To be successful here while safeguarding personal data protection rights,

Illustration 6: Development of customer channels and processes



²¹ Cheng, Wang and Yang (2009)

²² Durante (2017)

many utilities need to step up their data access and processing management.

Automation can be an important game changer for utilities. New companies that do not have to rely on legacy systems and structures can achieve a high level of process automation and scalability. And this allows them to drive operational costs down to levels far below those of many current utilities. With eroding margins from customers, utilities need to invest in more cost-efficient back-office processes to prepare for future competition. As an example, chatbots are a powerful way to serve customers cheaply and effectively. Blockchain offers great innovation and automation potential, too. In Europe, innogy has devised blockchain solutions for peer-to-peer electric vehicle charging, radically easing authentication and payment handling for customers using charging stations. As the first system of its kind becomes operational, utilities can offer superior services while reducing operational costs.

Let's be clear here: stepping up the digital game is a must, not a nice-to-have. Utilities that ignore companies offering disruptive, industry-changing products – whether they are incumbents or new entrants – will be in trouble.

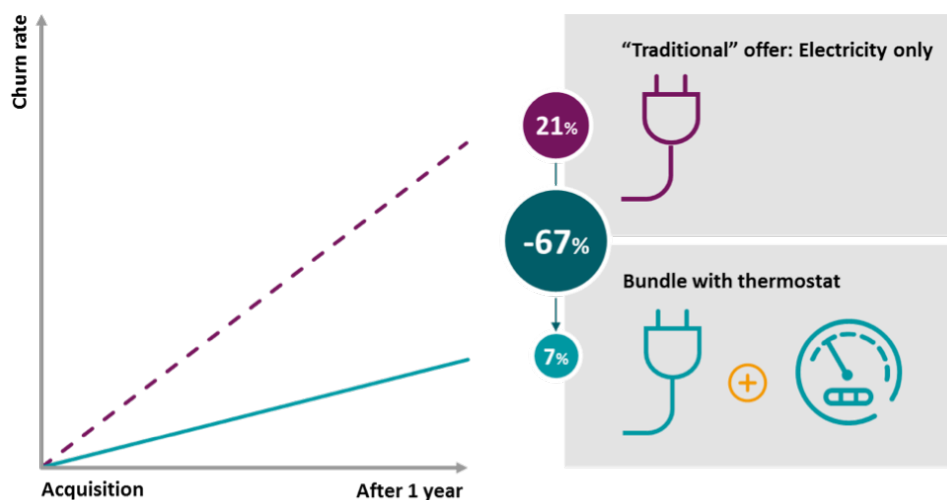
Key recommended first steps: Identify what parts of customer service interactions provide the most value and cause the biggest points of pain. Use customer data points (click behavior, social media posts, direct customer feedback, etc.) instead of less reliable, self-reported

customer surveys to get the most accurate picture and inform initial personal data business testing. Translate this to internal changes: identify and remove operational hurdles that could prevent improvement in customer satisfaction (e.g., overprotective IT legacy system, restrictive data storage and access). Further, scrutinize your processes for automation potential that does not compromise customer service quality (i.e., go for robotic process automation instead of outsourcing).

3. Offer new products

It is wrong to assume that people will no longer need the services of utilities the moment they connect their rooftop PV or private battery storage. The sun doesn't always shine, so continued connection to the grid will be necessary and require utility support despite greater customer autonomy. But the solutions customers demand from their utilities will change. Providing electricity will remain a key component of the offering, but customers will also seek more holistic energy solutions – such as energy management. Hence, utilities need to expand their product offering. It makes sense to do so by offering products close to the existing business, such as smart home technologies. When considering products to include, it is important to think beyond one's own industry: customers rarely buy stand-alone products but instead will favor "open" systems, such as a smart thermostat that can be linked to Amazon's Alexa.²³ It makes sense for utilities to develop and offer these types of products. Not only do they open new revenue streams,

Illustration 7: Churn rate reduction when selling bundle products



²³ See, e.g., Ikea offering "smart" light bulbs that work with Siri, Alexa or the Google Assistant as an example of how other industries go beyond their former limits as well in that respect.

but they can also ensure that existing ones keep flowing. Namely, data have shown that when customers are sold product bundles (e.g., a combination of electricity and a thermostat), they are more likely to stay customers.²⁴ Therefore, by broadening their product portfolio to include complementary products, utilities can reduce customer churn.

New product development and testing is not naturally part of utilities' DNA due to decades of being regulated, single-product companies for which product failure must be avoided at all costs. That is why companies who really want to develop industry-defining products need to first reimagine who they are at their core. They need to reevaluate and/or update their mission, vision, shared values and behaviors to match their aspirations. Agile methods for design thinking, scrum methodology and so on are massively popular in many industries at the moment. One key reason is that these approaches help a company focus on customer wants for new products. It is important to note that taking this path requires an acceptance of failure. It means testing the market with

prototypes instead of the 100% ready version, and being unafraid to disrupt oneself. To develop these industry-defining products, many utilities will need to embark on a change journey. There have to be explicit commitment and backing from top-level management. Without the commitment, top resources and a safe place for innovative, no-strings-attached product development, chances are very high that utilities will develop only incrementally improved products. Aiming for the big shot, however, helps utilities match the pace of disruption and remain the pulse maker that utilities have been for the entire economy for decades.

Key recommended first steps: Make innovation a top management priority, endorse it with both significant funds and key people. Provide a safe space where new product development can take place without interference from the corporate home (semidetached from the organization). Free your product development from restraints of the current industry limits. Allow for failures and rapid prototype testing in order to sooner understand and react to the customer needs.

Conclusion

The competitive landscape for incumbent electricity providers is changing dramatically. New technologies and business models, many leveraging broader trends in digitization, have reshaped the electricity product offering now available, even among residential customers. Utilities must put themselves in a position to offer the types of products these dynamics now enable or risk losing market share to new entrants. Utilities must also appreciate the need to serve customers' growing expectations for convenience. At the residential level, this particularly relates to better design and execution of the customer journey. Utilities need to understand the changing manner in which customers expect to be able to interact with them and have in place the right

infrastructure to support this. Finally, and of relevance over a slightly longer time frame, is the need for utilities to innovate on their product offerings. The basic electricity-only services that have defined what the utility has done for decades are going to become less and less relevant in a world of connected energy devices and growing deployment of DERs. Utilities must appreciate this and go all in in terms of developing new product offerings that can complement the changing device and usage patterns of their customers. This will not be easy in many instances; however, stepping into this new, more customer-centric paradigm is critical to long-term success in tomorrow's electricity sector.

²⁴ Rockmann (2017)

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Contact us today.

Oliver Riedel
Partner, Managing Director, innogy Consulting U.S.
oliver.riedel@innogy.com