

DIGITAL IN HIGHLY-REGULATED INDUSTRIES

WHY ELECTRIC UTILITIES NEED A CHIEF DIGITAL OFFICER

Virtually every aspect of the American economy has been altered by digital innovation. From music to taxis, each industry is rapidly working through the new challenges and opportunities the digital revolution brings.

THE CASE FOR INNOVATION

Highly-regulated industries, like education, government and energy, are just beginning to change. These monopolies, or virtual monopolies, aren't impacted by shifting market pressures as significantly as other industries. However, innovation will eventually challenge each business model.

Massive Online Open Courses (MOOCs) will change the way students learn. Decreasing tax revenue means local governments are turning to digital engagement with citizens as a way to lower costs and provide better services. Major innovation at the grid edge with renewables and energy storage threatens the very underlying business model of electric utilities.

In fact, in their most recent [Corporate Responsibility Overview](#), Xcel Energy said, "The way we produce, distribute and use energy has changed over time. And it will continue to change. Over the next five to 10 years, it is possible that there will be more change in the utility industry than we have experienced in the last half century. We believe this requires a new approach to our operations and how we address the challenges facing our industry."

The disruption facing the utility industry comes from many directions. There are technological changes like cheaper solar panels and smart meters. Companies like Nest and Apple are pushing to connect and control appliances in the home. Tesla is selling electric vehicles and home energy storage. Consumers are increasingly interested in combatting climate change.



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CHANGING CUSTOMER EXPECTATIONS

Duke Energy CEO Lynn Good said during [her keynote address](#) at a recent utility customer service conference that utilities need to improve their customer service. “Our customers have opportunities to understand what great customer service is every day of their lives as they interact with Amazon or they go to Nordstrom or ... anywhere where they have the opportunity to experience another service provider's product or service,” she said.

In a recent Nielsen survey, when consumers were asked how their utility should use a grant to improve some aspect of their business, almost [half of all consumers](#) say they would want more products and services to help them cut their energy use.

Another 26 percent said they would want their utilities to use the money to generate clean energy.

Customers that are attuned to digital trends may be the toughest ones to please, but the return-on-investment for a utility can be significant. According to Accenture, [digital consumers are highly likely to adopt new technologies](#). Their survey found that 80 percent of digital consumers said they would participate in an energy management program, 73 percent would sign up for home energy generation products, and 70 percent would sign up for automated home energy management devices or services. Even the non-digital consumers were agreeable to these products, with nearly half saying they would adopt them.

VALUE OF CHIEF DIGITAL OFFICER

Many utilities are exploring changes with their public utility commission (PUC) and other regulatory bodies to have the regulatory framework to respond to these changing market conditions. Once utilities have the authority to adapt to and change with the market, they will still need to execute on these new opportunities.

Yet with all this potential, there are no more than a handful of utilities with a senior executive focused on the digital domain. A few utilities bundle some of the scope for a Chief Digital Officer with the more commonly used, although still rare, title of Chief Customer Officer. And while many of the digital initiatives will be customer focused, keeping digital externally focused misses excellent opportunities to

increase an organization's efficiency and enable it to respond to market pressures.

This is where a Chief Digital Officer can add the most value.

“Our customers have opportunities to understand what great customer service is every day as they experience another service provider's product or service.”



There are many possible new business models for a utility to pursue as the marketplace changes and the digital revolution continues to disrupt the traditional business model.

Here Are 7 Possible New Business Models Where the Chief Digital Officer Is the Key Executive:

ONE

Platform to deliver and integrate “smart” home devices - Big names are working to give consumers more control over their home’s energy usage. The Nest thermostat and Philips Hue Connected Bulb are innovative, but without a simple platform to integrate them into a customer’s energy usage and lifestyle, they are just novelties. However, if a consumer could access all their appliances via a single dashboard that displayed usage and tips for saving money, that cost-conscious consumer would likely adopt the technology. A utility could build such a dashboard and then charge appliance manufacturers for space on it. A Chief Digital Officer would oversee the building of the dashboard and recruit appliance manufacturers

TWO

Service provider for administration services (billing, sign up/termination) for third- party providers - Many of the grid edge services like community solar, demand response, and energy storage will need basic administration functions as they scale. Utilities have both the familiarity with the customer and internal infrastructure for completing this basic record keeping. A Chief Digital Officer could work with the Chief Operating Officer to expand internal administrative services and work with new third-party providers to meet their needs, all the while, charging them for meeting this need.

THREE

Demand Response - A Chief Digital Officer can be the integral executive for ensuring adequate demand response for a utility and for a utility to make money in the demand response market. When a utility expects a high-demand day, a well placed mobile app or email can inform customers that they can save money by adjusting their thermostat or waiting to do laundry. A truly integrated digital ecosystem can even do it for customers, with a simple click or tap. The utilities can make money from selling that saved energy back to the grid at much higher prices than they paid weeks or even months ago.

FOUR

Community Renewable and Commercial Installations - While much of the discussion around renewables has been about home consumers, commercial clients and community renewable projects present legitimate opportunities. Working with the Chief Marketing Officer, the Chief Digital Officer can reach these two communities, which will be a different buyer persona than a traditional home owner. The Chief Digital Officer could help create the targeted content for buyers of community renewable programs to generate leads or ensure an easy-to-use web dashboard for facilities managers of commercial properties.



FIVE

Sale of consumer data to third parties - Often viewed as “digital exhaust”, individual customer data can be captured and sold to third parties. Certainly vendors within the energy sector would be interested. However, the landscape is much broader. Consumer goods manufacturers would be interested in energy usage because it might correlate to family size or income. Political parties would be interested in energy usage because it might correlate with voting habits or propensity to donate to a cause. Consumers could retain privacy if the utility published data only at the census block level under the idea that houses in the same area will probably share the same demographic or political characteristics.

SIX

Reliability and climate change adaption - With coming changes to the global temperature, utilities will be challenged to lower contributions to greenhouse gasses, but also deal with the effect of climate change. A Chief Digital Officer can help oversee mobile apps that alert consumers about outages due to severe weather and allow them to report issues. A Chief Digital Officer could also spearhead an internal initiative to engage employees about the most efficient way to adapt processes and systems for a changing climate.

SEVEN

Financing/VC of “grid edge” technologies - As many tech companies are already doing, sometimes it is easier to buy your competition than to out-innovate them. Given the innovation at the edge of the grid, a utility, if permitted by its PUC, could use its balance sheet, backed by many valuable assets, to purchase or partner with some of the innovative companies in the energy sector. Given how many of these new companies are working directly with consumers, a Chief Digital Officer would be well placed to help find and vet companies that would fit well with the existing utility’s products and services.

The world of energy generation, distribution and storage is changing rapidly and a forward-leaning utility would be well placed to take advantage of the myriad opportunities before them by hiring and resourcing a Chief Digital Officer. Not only could a Chief Digital Officer shore up existing customer-facing issues regarding service and payment, but this person could open up multiple new revenue streams for a utility. Those utilities that fail to respond to the changing marketplace and impending digital disruption will find themselves on the outside looking in for the rest of the 21st century.