Charting a Path for Utility Digital Transformation:

Data and Cloud Strategies
that Drive Customer Growth

Executive Summary

Over the last dozen years, the energy industry has experienced a game-changing revolution in the utility-customer relationship.

To thrive in a new energy economy, utilities are designing robust, new customer offerings and more comprehensive customer journeys.

The trend follows a steady convergence of digital capabilities and customer experience transformation led by other sectors. We find ourselves at a pivotal moment when computing technology is fully able to support today's customer-driven business models.

This is the perfect opportunity to create an IT stack for utilities that can evolve with both customer experience transformation and utility business requirements.

Diversification, distribution, and digitalization

The distributed grid requires distributed digital intelligence.

Globally, energy systems are going through transitions that are rapidly changing how we fuel our cars, heat our homes, and power our businesses. No longer centralized, today's transmission and distribution system now has to support a complex, distributed network of local generation and capacity.

At the same time, residential and business energy consumers expect utility customer experiences on par with other companies competing in the energy space for their attention and loyalty. Customers have more power than ever with customer-sited distributed energy resources (DERs) and their impact on grid capacity and commodity value.

Customers: the utility's most valuable asset

Utilities have an opportunity to harness growing customer power by using agile digital tools and customer-experience-centered design. The goal is to maintain trusted customer relationships and increase lifetime customer value.

But what does that look like? Here are a few developments that have added new dimensions to the overall landscape and increased the pace of change.

Smart devices, clean energy sources, and utility marketplaces diversify *customer choice*.

The shift to a distributed, renewable, sustainable energy model is gaining global momentum as the cost of wind, solar, and battery storage becomes more viable than generation sources based on fossil fuel. While demand for electricity continues to grow, the choices are expanding for cleaner, more local, and non-utility-owned sources of power.

Customer appetite is also increasing for renewable energy options, rates that better fit their consumption patterns, or incentives for conservation or demand-management behaviors that keep the grid reliable, safe, and green. For providers, a fragmenting market means there are more dimensions to manage with respect to utility customer offerings.

Distributed energy resources (DERs) increase *customer capacity*.

There is a growing adoption trend worldwide for customer-sited generation, including distributed solar (photovoltaics, or PV), electric vehicles (EV), combined heat and power (CHP), distributed storage, and "negawatts" from residential smart thermostats. This new flexible end-user capacity is driving utilities to seek more ways to partner with customers. It's now possible to use customer data to manage transmission and distribution to benefit both the utility and customers.

There are two key opportunities for predictive analytics and customer usage profile data: (1) to value grid services (with more precise time – and locational – value of energy) by factoring in customer-side assets and behavior, and (2) to manage interconnection in a way that optimizes grid performance, power quality, and safety. Utilities can use price signals, PV or EV rates, enhanced commercial and industrial (C&I) demand response programs, DER marketplaces, and energy efficiency programs to optimize customer participation in the energy marketplace. The shared objective is to maintain a grid that is secure, reliable, and efficient.

Digital engagement sets a new bar for customer communications.

In a parallel development, customer expectations are increasing, and consumers have more choices than ever in both competitive and regulated markets. Unlike the traditional, one-way model, today's customers expect to engage with the utility for myriad reasons other than to report an outage, dispute a bill, or set up service. Utility customers are becoming savvier consumers subject to more complexity, choice, or market fluctuation. They expect to be known personally if the utility is collecting so much data about them. They want all their touchpoints to connect seamlessly – from text alerts and call centers to chatbots and service calls.

It's a very different environment compared to just five years ago, so energy companies will need to have the systems and processes in place to manage and thrive. While there are significant challenges, there are also massive opportunities for improved performance and growth for utilities that are agile and responsive to customer needs.

Disruption = Opportunity

A diverse, distributed, digital grid helps utilities capture customer value.

Then – Edison's achievement

For 100 years after Edison built the foundations of the modern grid, electricity customers only had one option for service. Utilities didn't have to compete for customers, nor did customers have to shop around. Utilities offered one thing – lights on – and everyone wanted it.

Now – Edison's wildest dream ... starring Tesla?

Now, customers can get as sophisticated as describing the mix and source of the energy they buy and who they buy it from. They can shop for energy efficiency appliance rebates and better rates for their lifestyle. Utilities and energy retailers are working on ways to **make customers aware of their options** for shopping in this way.

Customers also expect to engage their utility for myriad other reasons than to report an outage to the utility call center. They want to hear status updates via social media, to pay bills and consider incentives via self-serve mobile channels, and **to be known personally on all these communication streams.**

Utilities are also competing with non-utilities like Tesla, Google Home, solar companies, and even customers themselves to **own the energy customer relationship** – as there are more places and ways for customers to get their energy needs met.

Driving the industry to the cloud

Decentralization, decarbonization, and democratization of the grid.

Where the costs of renewable energy continue to decrease, many countries will soon reach a tipping point where they are the cost-effective alternative to conventional fuel types. In Britain, the milestone has already been passed – in the first five months of 2019, clean electricity overtook fossil fuels with 48% of generation (47% for coal and gas).

Improvements in battery technology and declining costs are bringing us close to the point where electric vehicles will be more economically viable than internal combustion engines – potentially seeing cost parity in the early 2020s. Deloitte predicts that there will be an oversupply of EVs, surpassing ICE by 2030.

An NREL study on renewable electricity futures found that renewable electricity generation from technologies that are commercially available [as of 2018], in combination with a more flexible electric system, will be ample enough to supply 80% of total U.S. electricity generation in 2050 while meeting electricity demand on an hourly basis in every region of the country.

A Greentech Media research report estimates that, in the U.S., the combined growth in adoption of customer-side generation including distributed solar (photovoltaics, or PV), electric vehicles (EV), combined heat and power (CHP), distributed storage, and residential smart thermostats is expected to reach 104 GW of capacity by 2023 – equivalent to almost as much power as Texas grid operator ERCOT currently registers for its bulk generation system.

Decentralized grids may be the best way forward in countries trying to modernize power delivery and keep up with swelling demand and leapfrog to clean, affordable energy infrastructure. For example, analysts posit that in South Africa, distributed energy generation can solve generation capacity, access, and reliability problems and ultimately be the key to economic prosperity.

All the other Ds – decentralization, decarbonization, and democratization – are driving utilities to digital and cloud solutions, and digitalization projects are beyond just the planning phases. Gartner's 2019 utility research indicates that a significant proportion of digital initiatives in utilities have shifted from the initiation phases to the scaling phases. Most digital activity appears to be in optimizing existing processes for cost reduction and operational improvements. Utility CIOs expect that a move to the cloud will result in reduced investment in technologies required for on-premises IT application delivery and support.

Meeting New Challenges — and Challengers

There is no doubt that technology has become better, faster, and cheaper to deploy, delivering tailored solutions that not only delight customers but enable growth.

Consumers and businesses today still go to energy companies to install and manage their access to energy. But in the near future, there will be increased competition from engineering, telco, and technology companies hoping to grab a share of this ecosystem. Energy companies must rise to the challenge of new competitors and technological innovation already inspiring enhanced propositions if they want to retain customers and their trust.

> **Given this ripe opportunity, it will be crucial to make smart technology investments that enable the convergence and collaboration of ecosystem partners essential for future operations.**

Energy companies will need to diversify their roles, offerings, and lifetime customer value to transform over the next 10 years. It's not necessary for utilities to become fulfillment houses to compete with Amazon, to build cars and batteries that rival Tesla, or to surround customers with targeted marketing content 24/7 to mimic Google.

Utilities already have the means to establish their value in this ecosystem as the trusted owner of the energy customer relationship. They can accomplish this objective by amassing data-driven customer insights to personalize offerings and services that only the utility or energy provider can deliver.

Digitalization and mobilization to match a decentralized grid

Digitalization is transforming the sector from one that provides simple undifferentiated products to one that provides sophisticated, personalized solutions, combining commodity and non-commodity products – all made easy for customers. The companies that can embrace these opportunities will continue to grow and redefine how they interact with their customers.

Especially in the B2B sector, as margins on power become further challenged, the energy suppliers that can quickly configure, package, and price a wide range of products and services – honing in on the ones that are most valuable to both the customer and the utility – will be the ones that stay ahead. Not only will they deliver superior levels of service, they will reach and retain more customers to drive growth and value.

Consumers want services tailored to their needs that provide high-quality, seamless, omnichannel access. Digital when it's needed. Human interaction when it's necessary. They also demand value as a constant. Such expectations have begun to impact energy suppliers. A typical customer expectation: Why can't one provider supply me with energy, smart home, telecommunications, broadband, and insurance in a competitive, well-managed subscription? Research shows that customers already expect interactions with their energy supplier to be comparable to those with Netflix or Amazon – simple, intuitive, proactive, and personalized.

Just as these companies offer recommendations to boost engagement and enhance the brand experience, consumers have come to expect the same of their energy supplier: offer the best-value terms of service in a bundle of energy services tailored to optimize their budgets, manage their usage, and enhance their lifestyles. Some customers even want utilities to take advantage of the Internet of Things (IoT) to serve up intelligent digital advice to inform behavior and help incrementally with the move toward a carbon-neutral economy.

Mobile is another area of disruption and opportunity. With trending research that shows a majority of customers handling their payment transactions online and 42% of online interactions occurring on mobile devices, utilities can't afford not to have at least a mobile-responsive website, if not a fully enabled mobile payment and customer contact solution. At the same time, while many transactions are initiated via mobile, energy customers still prefer to resolve more complicated requests with a live agent. Utilities will need to make sure their service agents have a full-view of all that has transpired with customers via mobile and online chats leading up to a call center interaction.

Putting the power in the hands of the business

With the wealth of customer information, utilities are in a strong position to provide tailored, innovative solutions.

The latest cloud solutions are putting control firmly in the hands of your businesses. SaaS subscription models make it easier to buy and consume at the levels you need now and in the future. Companies are moving away from custom-coded software that can be difficult and costly to manage to "low-code platforms," where transformation and differentiation are achieved through clicks, not code.

The market is also seeing a marked change in how solutions are deployed – large IT projects taking years to deliver are being replaced by smaller, agile implementations in which solutions and value are being realized in a matter of weeks.

Convergence and collaboration to meet market conditions have become the norm. Partnerships will continue to be essential to deliver omnichannel solutions. Here at Salesforce Industries, we are seeing huge innovation in the software arena with companies such as Salesforce, Google, and Amazon providing value that is masterfully created, consumed, and regularly updated. And, these learnings are moving cross-sector.

For those wondering what the market will look like in a few years, the obvious question is: Will it be similar to how telecommunications companies manage roaming charges? Or will there be a fixed and flexible model? What is clear is that companies that adopt technologies driving convergence will become leaders in provisioning complex packaged solutions – all delivered with the highest quality customer service via all-digital channels.

In the U.K., where the retail energy market is competitive and utilities are adapting to customer churn and switching, Salesforce Industries is seeing customers replace legacy pricing and customer systems with cloud-based systems that can support frequent product innovation, responsive contract and account management, and user self-service.

Utilities need the nimbleness to stay responsive to customers who have more and more choice, and they need intelligent systems that can help them quickly prepare offerings for different segments while protecting margins in a dynamic and volatile market.

Renovation, not revolution

No one is ripping out the current transmission and distribution (T&D) systems to make way for renewables and DERs; we need that infrastructure to make distributed energy possible. In the same way, you don't have to tear out legacy systems to make significant progress on a utility digital transformation.

In fact, customer experience and front-office improvements are sometimes the best way to make the best use of legacy utility CIS systems and increase their value as the foundation of future, flexible digital platforms.

In the U.S. Pacific Northwest, one Salesforce customer has chosen to start with a quick win first: the utility's call center. The initial project is to install a modern, intuitive console that provides a 360-degree view of customers.

This is a fast way to make many stakeholders happy: Customer service representatives (CSRs) become more effective, IT shows immediate benefit in implementation, and customers themselves suddenly have a richer experience with every call.

In addition to reducing call-resolution time and increasing customer satisfaction via personalized communications, the data architecture, integration, and business process activities involved in deploying a 360-degree customer console will be the first step toward even more omnichannel capabilities.

Standardizing on a future-proof platform

The rapid consumerization and digitization of technology is happening in all industries, and the same applies to the utility sector. There is a massive opportunity to redefine and transform the relationship between customers and utility companies – and it is all based in the cloud.

Digital transformation, when customer-driven, businesses to put the customer at the absolute heart of their thinking, directly tailors solutions to exactly what they need rather than being restricted by what legacy systems can accommodate. Utilities need interoperating systems smoothly orchestrated in a way that the cloud and open integration standards support.

Improvements in integration have made the linking and leveraging of data much more straightforward than in the past, effectively allowing solutions to quickly parse and use data from other systems to improve the customer experience. But partnerships and collaboration are going to be key, both within and outside of the organization.

Utilities are facing the challenges of internal, historically siloed data systems, and they also want to bring in outside data and valuable third-party tools and data sources to enhance their customer programs, marketing, and outreach. Both internal and external data resources must be brought into one place and provisioned to many users and roles.

Choosing the right platform

To propel the innovative, creative re-imagining of the customer experience, the utility needs the right platform and a digital transformation strategy in place. At Salesforce Industries, we have seen utilities take many tactics that boil down to a few general approaches. Some are more successful than others at achieving business objectives, but only one is truly future-proof and flexible.

There is no doubt that technology has become better, faster, and cheaper to deploy, delivering tailored solutions that not only delight customers but enable growth.

Approach 1

Customize, upgrade, or replace the utility (CIS)

Utilities on customer systems or older, highly customized solutions are faced with replacing their customer information system (CIS) as a first step in the move to the cloud. These initiatives are expensive, risky, and long, but necessary. While CIS upgrades are a requirement for cloud transformation, they are not sufficient to put you in a better position for agility and innovation. They are merely better repositories, but they do not position the utility to exceed customer expectations.

Billing systems are not the most foundational first step in digital transformation. Improving customer billing is certainly a good start to improving customer experience, but if you are getting bills out the door, now is not the time to replace your billing system as part of a customer experience transformation project.

Approach 2

Bolt-on custom-built extensions

Some utilities choose to bolt-on more functionality to key customer gateways like contact center portals, commercial and industrial (C&I) account management portals, customer web portals, or mobile apps. These are often costly to maintain, and with scarce IT resources, utilities cannot keep pace with innovation. If a utility chooses this option, it would be hard to be successful unless they have a systems integrator advise on their data models and help them develop extensions that will allow them full access to – and value from – that customer data for future innovation.

Approach 3

Use small-point solutions (like chat or social) to solve problems

Like call center upgrades or billing systems upgrades, the use of small-point solutions like chatbots seem like a good entry point for both digital evolution and customer experience improvement. This can be a good strategy for some quick wins but often leaves the utility with siloed information and sometimes costly integration.

Approach 4

Adopt a horizontal CRM or customer experience and engagement solution from your CIS vendor

Some CIS vendors are working on upgrading their platforms to offer cloud computing and customer relationship management (CRM) solutions. A common way that CIS vendors choose to accelerate this is to reuse code developed for other clients. Beware of the tendency to overlook your business goals to meet their time frame. System integrators do a great job of connecting systems, and they do a good job of configuring them and coding where necessary, but most of these systems are not best-of-breed cloud solutions – and do not bring with them the needed industry innovation.

Approach 5

Buy a generic CRM platform

A generic cloud CRM solution gets closer to the twin goals of customer experience and digital transformation but will still be costly to implement and integrate to the CIS and other systems because it is not industry-specific. It doesn't know anything about a premise or a service agreement, let alone a complex multi-step transfer of service process.

While each of these approaches can solve for some immediate hurdles, a more flexible and future-ready approach is to start with proven best practices for cloud-based CRM and make that the standard by which you measure the gaps or limitations in your existing CIS.

Best solution — a customer-first approach with your utility business in mind

There is a thoughtful, alternate approach to the twin challenge of customer innovation and digital transformation. It is possible to both enable your utility to deliver value to customers and business units while lowering risk and also laying a future-proof foundation for agility, transformation, disruption, and innovation. This approach means transforming your employee and customer experience without the risks that come with custom solutions or major changes to legacy customer systems.

This approach also requires a best-in-class, true cloud platform *and* an industry-specific product grounded in customer-centric innovation.

1 A cloud platform for customer-centric innovation

Why Cloud? Cloud has always promised security, scalability, performance, and availability.

Why Platform? According to Technopedia, "A platform is a group of technologies that are used as a base upon which other applications, processes, or technologies are developed." This is the connective
tissue that utilities need to manage the diversity of their legacy systems, third-party systems, and new digital capabilities. A cloud platform allows utilities to configure, code, build tools, and accelerate innovation. In addition, the platform should be easy enough and robust enough to sustain an ecosystem of partners – the majority of whom are running their businesses on Salesforce.

2 An industry-specific product

Why Industry-specific? The risks are too high to embark on turning a horizontal system alone into a utility CRM/CX. The Utility IT team will end up having to develop a lot of custom code, which will mean costly support and testing. In our experience, it's wiser to start with a foundation in the industry and configure from there.

Why product, as opposed to a custom accelerator? With the other risk factors that utilities face, there is no reason to go with a custom accelerator or one-off code, which do not offer continued industry innovation, nor a long-term product roadmap. System integrators would agree that a dedicated product solution is the smartest.

The Salesforce Energy & Utilities Cloud

Modern, personalized digital customer engagement requires a new approach with fresh thinking and leading cloud innovation partners.

The Salesforce Energy & Utilities Cloud is the only complete customer experience (CX) and CRM platform for energy and utility companies on Salesforce.

Salesforce helps utility service providers transform to digital engagement faster while mitigating risk through delivered industry capabilities, including pre-configured industry processes and productized integration procedures with leading utility CIS platforms.

Questions to Ask Yourself for Platform Selection

1. **Organizational Agility**
   Can you quickly adapt to changing market conditions, regulations, and competitors?
2. **Speed to Market**
   Can you easily configure customer offerings and promptly launch them in the market?
3. **Software Interoperability**
   Can you easily integrate internal applications, third-party applications, and future acquisitions?
4. **Lower Operating Cost**
   Can you minimize the software, hardware, and human resources needed to manage business processes?
5. **Frictionless Experiences**
   Can you improve and create consistent experiences for members, providers, producers, employees, and partners?
6. **Business Transparency**
   Do your analytics help you to understand business performance and compliance?

Build: Establish a cloud platform fit for purpose

Agility begins with a solid cloud platform that supports flexibility and scalability. But, agility for utilities requires a cloud platform that's built specifically with energy and water utility business models in mind.

Various point solutions have been developed over the years to address utility industry challenges, but they have resulted in operational inefficiencies due to lack of integration and continuous (often unexpected) investment in software innovation.

Industry-specific cloud software now aims to create an enterprise platform that consolidates and/or replaces such point solutions and operates the entire front, middle, and back offices. For example, Salesforce chose to extend the world's #1 CRM cloud platform into a full energy and utilities stack.

Salesforce's industry solution eliminates the need for custom development to support business processes unique to the energy and utilities industry. And, building on Salesforce supports guaranteed uptime, security, and an established cloud platform.

But no matter which vendor you choose, take time to consider technological solutions that lay the groundwork for current and future needs.

About Salesforce Industries

Salesforce Industries, delivers industry-specific cloud and mobile software that embed digital, omnichannel processes for customer-centric industries. Salesforce Industries enables companies to achieve faster business agility and time to value from the cloud across digital and traditional channels.

Learn more at https://www.salesforce.com/energy.

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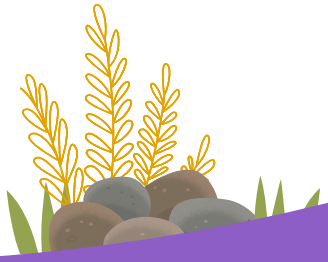

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