

Becoming a Digital Utility: The 'What' and the 'Why' of Implementing a Digital Strategy

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Setting the Stage for a Digital Strategy

Across the board, the fundamental ways in which business accomplishes work are undergoing massive change. In particular, new digital technologies are changing the ways in which businesses operate, and opening up new opportunities to better provide information, products and services to customers.

For the utilities industry—facing increasing pressure to improve both operational performance and customer relationships—adopting a strategy to incorporate digital technologies into its enterprise DNA is an imperative.

External pressures on the utility for digital transformation are huge. “As consumers are empowered by the proliferation of IT interfaces and multiplication of communication types, their expectations for borderless everything-anytime-anywhere, customer-centric interaction are profoundly redefining the nature of services,” IDC Energy Insights said in a report late last year about new utility business models.¹ Because of those heightened consumer expectations, those start-ups and “digitally transformed companies” are turning energy consumers’ heads away from their traditional utility provider, it notes: “The biggest threat that utilities face today is from outside the industry... Nonutility companies—including Google and Amazon, consumer electronics manufacturers, and telecommunication companies—have brands that have better consumer appeal, stronger ability to extract value from data, and deeper relationships with their customers. In addition, they enjoy better customer trust (and much better net promoter scores) and are digitally more mature.”²

And while many utilities are adding digital components to portions of their enterprise, their levels of digital maturity still remain relatively low. For example, according to a 2015 study by J.D. Power of 66 U.S. electric and natural gas utilities, while 57 offered an online mobile channel for customers, either through a mobile-enabled website or a mobile app, satisfaction among the customers using their utility’s mobile website or app was lower than among those using the website from a desktop. “Unfortunately, utilities are not meeting customer expectations when it comes to the mobile experience,” said Andrew Heath, senior director at J.D. Power, of the study’s findings.³

For the next generation of consumers, who are used to interacting with their business providers via smart phones and tablets, this will not be good enough.

So what’s a utility to do? It all begins with a comprehensive digital strategy.

Why now?

Today’s utilities industry business climate is prime for digital transformation: A new regulatory environment, changing customer demands and the attractive economics of digitization all paint a compelling picture for adopting a digital strategy. Let’s take a look of each of these areas in more detail:



A New Regulatory Environment: Around the world, particularly in areas in which increased demand on strained networks and/or an increased incidence of severe weather events have taken their toll, or where resource scarcity already exists, regulatory bodies and government agencies are mandating utilities to take the necessary steps to increase their resiliency, create a safer environment by proactively repairing aging infrastructure and ensure access to safe

¹ *Designing the New Utility Business Models*. IDC Energy Insights White Paper, October 2015. Sponsored by Capgemini. Authors: Roberta Bigliani, Robert Eastman, Jean-François Segalotto, Jill Feblowitz, Gaia Gallotti.

² *Designing the New Utility Business Models*. IDC Energy Insights White Paper, October 2015. Sponsored by Capgemini. Authors: Roberta Bigliani, Robert Eastman, Jean-François Segalotto, Jill Feblowitz, Gaia Gallotti.

³ “Utilities Struggle to Deliver Customer Service via Mobile Websites,” J.D. Power press release, March 19, 2015. <http://www.idpower.com/press-releases/2015-utility-website-evaluation-study>

water, and (for electricity) include more renewable energy in the generation mix in order to meet increased clear air standards.



Changing Customer Demands: Customers are becoming increasingly digitally proficient and, further, have grown to expect the personalization they receive from Amazon, Netflix, Google and more within every aspect of their lives—even from their utility providers. It's this high level of digital engagement that creates each customer's experience, unique to his or her tastes and needs, designed to deliver the maximum impact for his or her life and the greatest benefit from the services rendered.

If the banking, retail, travel and communications industries are able to provide that, then why can't their utilities, as well? Digital connection and social media are now the norm in the business-customer experience. This new, digital environment is drawing an abundance of new market entrants, and offers utilities the opportunity to explore value-added services for its customers, and truly transform the utility-customer experience.



Digitization's Attractive Economics: The increased demands of environmental and economic regulation are adding to the ongoing pressures of utilities' day-to-day cost control. From transactional engagement with customers and sensor data providing greater asset utilization and productivity to the integration of new, distributed energy resources, digital technologies offer the enormous opportunity to: a) reduce costs with faster, more accurate transactions; b) improve productivity with more machine/systems interaction, more timely reaction, and less

wasted effort; and c) provide better, more accurate data, ensuring enhanced asset utilization and improved customer interactions. Further, digital technologies provide utilities with the increased flexibility needed to work more efficiently and respond more quickly to industry needs.

Utility transformation isn't new: there have been significant step-changes throughout the history of this industry. But the shift to become a digital utility is a major generational shift requiring each utility to examine the myriad opportunities available to them, consider how best to navigate the impacts on the organization, and decide where best to start.

Three focus areas for digital transformation

Part of the problem, when it comes to adopting a digital strategy, is the lack of a common definition of digital within the business. In a 2015 survey, PwC asked executives to "choose the two most-apt definitions of digital for their business. While the majority (53%) think of it as the activities related to technology innovation, and a large share (41%) see it as the investments made to integrate technology into all parts of the business, a sizable number define it as IT (37%) or customer-facing activities (36%)."⁴

In reality, for utilities, there are three core areas in which digital transformation occurs: within the customer experience, within the workplace, and within technology and information. Here, briefly, is what digital transformation in each of these areas looks like:



Transformation of the customer experience: As utility customers transition from passive consumers to active participants, utilities must define a deeper level of customer engagement and incorporate more consumer technologies into the utility technology architecture. Utilities must quickly pivot as consumer expectations and communication trends change. It becomes

⁴ *Lessons from digital leaders: 10 attributes driving stronger performance.* 2015 Global Digital IQ Survey, PwC, September 2015.

critical that utilities leverage omni-channel engagement with customers, providing them with a more seamless utility experience.

Typically, the digital experience starts with customer communication, as numerous technologies are readily available, and customers have increased expectations in this area, thanks to their digital experiences with other industries. This area of digital transformation has high visibility and high impact.



Transformation of the workplace: As utilities take on digital transformation, they begin to uncover new ways to work by leveraging improvements in access to information, process automation and integrated business processes. Mobility and access to information redefine the workplace and how we deliver the right resources to the right people to complete work. Digital knowledge management and information tracking has a major impact on utilities' ability to keep pace with a rapidly changing industry.

Learning from its advances in customer experience, the maturing digital utility will begin to deploy similar technologies within the workplace. There are enormous opportunities in this area to transform how work is completed: machine-to-machine communication allows for increases in productivity, and processes can become more system-driven.



Transformation of technology and information: Utilities transition from reactive to proactive use of information in digital transformation, and require new skills and strategies as they rely more heavily on analytics. Utilities require more advanced, integrated technology to support the transitioning role of information and share it freely across technology systems in order to take advantage of the full business value of data.

These changes reach far beyond the technology systems that enable them and the customers who are demanding them. There is a cultural shift necessary, as well, one that requires an organizational appetite for transformation as well as top-down sponsorship by utility executives who are willing to lead the organizational transformation necessary.

According to IDC Energy Insights, "The new reality for utilities business leaders is that they need to transform and lead digitally powered organizations that are not only adaptive to change but also able to predict and drive the change."⁵ Further, according to PwC: "Top-performing companies are more deliberate in their digital strategy, innovation, and execution. They are more likely to have CEO commitment, strategic clarity, and shared understanding. They are more apt to take a broad view when applying technology and identifying sources of innovation. And they are more prone to being skilled at turning their data into insight, proactive in cybersecurity, and consistent in measuring outcomes from digital investments."⁶

⁵ *Designing the New Utility Business Models*. IDC Energy Insights White Paper, October 2015. Sponsored by Capgemini. Authors: Roberta Bigliani, Robert Eastman, Jean-François Segalotto, Jill Feblowitz, Gaia Gallotti.

⁶ *Lessons from digital leaders: 10 attributes driving stronger performance*. 2015 Global Digital IQ Survey, PwC, September 2015.

Developing a Digital Strategy

There are three fundamental steps involved in developing a digital strategy.



Step 1 – Assessing Capacity for Transformation

The first steps to any transformation involve gauging the scope of change needed and the ability of the organization to take the leap necessary to make the change. Within the scope of that assessment, there are myriad technical, cultural and customer aspects to take into consideration.

A technical assessment gauges capability and ability: will the utility's current hardware, software and communications infrastructure be able to handle the new influx of data and the speed required to deal with it effectively? Are your systems built to interconnect, and to talk to each other? The digital transformation of your organization requires you to think outside of individual applications to solve singular problems. Once your systems begin talking to each other, and your processes become more reliant upon data for quick and agile decision support, the accuracy of the data becomes crucial. Do you have the governance in place to ensure that each piece of critical data has a system of record, one that also allows that data to be used by other systems, processes and people within the organization in a timely fashion?

A cultural assessment takes into account your organization's interest and capability to take on transformation and, specifically, how much effort it will take to change attitudes that might be in conflict with the transformational goals. As discussed above, key executives must take the lead in any digital transformation efforts to give them the commitment, strategic clarity, and deep understanding necessary to create an ecosystem for innovation. One of the biggest shifts necessary in the utility organizational culture is in the necessary blurring of the lines between technology and process. Across the board, operational groups need to be more open and knowledgeable about how technology can enable the business of business, and IT groups must learn how they become more ingrained in the process of converging operational technology (OT), information technology (IT) and customer technology (CT).

Finally, an assessment of the current customer culture is imperative. Are your customers ready for this digital shift? Are they demanding more? Do you have the trust and loyalty of your customers? When you roll out new technologies and programs, will they embrace them? How tech-savvy are they? The answers to these questions will tell you how quickly you can move to make changes in customer engagement, and how ready the market is to embrace these changes.

Digital Maturity Model

	Fragmentation	Modernization	Transformation	Acceleration
Customer Experience	<ul style="list-style-type: none"> Limited customer engagement Reactionary field service Simple and somewhat inefficient billing 	<ul style="list-style-type: none"> Multi-channel communication remains siloed Improved billing accuracy Introduce customer-centric field work 	<ul style="list-style-type: none"> 360-degree view of customer Omni-channel engagement Proactive field work strategy 	<ul style="list-style-type: none"> Customer experience curator for third parties Quickly integrate new channels Predict customer needs and expand service offerings beyond utility
Workplace	<ul style="list-style-type: none"> Manual processes rule Inefficient knowledge transfer No live access to customer information from the field 	<ul style="list-style-type: none"> Automation begins to impact work processes Knowledge transfer is becoming digitized Mobile devices can be leveraged in the field 	<ul style="list-style-type: none"> Algorithms used extensively to optimize work processes Employee training is available on-demand Mobile devices are standard in strategic planning 	<ul style="list-style-type: none"> Automation transforms complex work processes Integrated, real-time communication between teams using the same systems Augmented reality becomes standard in improving work performance
Information & Technology	<ul style="list-style-type: none"> Paper-based information tracking Customer-built technology results in bulky integrations Very little information flow between systems 	<ul style="list-style-type: none"> Investing in capturing data and understand the importance Move towards COTS systems Improved communication between customer and meter systems and/or mobile and outage systems Cloud is leveraged for systems of innovation 	<ul style="list-style-type: none"> Information silos are actively broken down Standardized processes become priority in technology investments Fluid information flow between customer, meter, mobile, and outage systems 	<ul style="list-style-type: none"> All business decisions are data-driven Fluid information flow between all systems Cloud deployment expands to all systems
	Late Adopters	Workhorses	Innovators	Visionaries

Oracle Utilities has prepared a “Digital Maturity Assessment” for use in each of these areas to help utilities understand where you currently rank in your digital transformation journey and to help you roadmap your path forward.

Step 2 – Building a Strategy

Transformational efforts typically fail due the lack of a clear strategic approach and poor execution. It’s roughly equivalent to taking a cross-country trip without a roadmap: you can get lost down a lot of side roads, thereby wasting a lot of time, effort, and expense, when mapping out the journey at the outset would have allowed for a much smoother journey without unpleasant surprises along the way.

You have used the Digital Maturity Assessment to determine where your utility sits on the digital maturity model shown in Step 1. These are your starting points. In building your digital strategy roadmap from these starting points, there are also a few key elements to consider:

- ▶ **Shifting IT’s role from a service provider to a business platform builder.** Successful digital transformation strategies will assess and evaluate IT’s role in the utility’s business: Should IT become more integrated? Do operational and transactional business managers need to become more tech-savvy? What are the steps the utility will take to make these changes?
- ▶ **Breaking down enterprise silos.** As information begins to run more fluidly throughout the business, the alignment of processes and people become increasingly important. Rather than continuing to operate in business silos, codependent and cooperative processes must become the norm. Building this mindset into your business operations from the beginning is crucial to the success of the digital strategy.
- ▶ **Planning for and embracing continued convergence of IT-OT-CT within the business.** Make your digital strategy part of your overall business strategy and agenda. As your IT department enables more operations, as your operations staff incorporates and becomes reliant upon more available data, and as customer service becomes more aware of and involved in the entire process, the technologies used by each of them must become more open, more collaborative, and more integrated.

► **Remembering that transformation must also be transitional.** Digital transformation is not teleportation, it is a journey. It will not happen overnight. It must occur while continuing to focus on reliability and customer satisfaction and continued engagement. Agility will be of prime importance here, in order to balance that focus hand-in-hand with change. However, with that in mind, it's also important to realize that the traditional utility approach of long-range, 20-year planning is not an optimal timeframe for a successful digital transformation journey. Each utility's path, based upon both need and necessity, will be different.

Step 3 – Executing Your Strategy

You have assessed your capacity for digital transformation, and determined and refined your digital strategy roadmap. You are now ready to execute on your plans. No matter where you are starting on the Digital Maturity Model, it is important, for a successful execution, to keep the following in mind as you begin:

Remember the foundational building blocks for success. Always continue to keep customer-centric ideals front and center throughout the process: Does this benefit the customer? Have we communicated this effectively, both internally and to our customers? At the same time, it's essential to take an enterprise approach to digital transformation, rather than solving individual problems in a vacuum.

Understand and be able to effectively communicate the benefits of the IT/Human interaction, and how it changes the concept of work. In order to do this, ensure you are able to communicate and demonstrate how new processes will enable the business, and how the better utilization of technology equals smarter people and smarter results. Finally, invest in enablement: You can take full advantage of new opportunities brought about by new technologies only when everyone involved understands how to use those technologies.

Work with your solution providers, partners, suppliers and customers to build a strategic network. Just as collaboration within the organization is important, collaboration outside of the organization, from solution providers to customers, can make or break your digital transformation effort. Often, suppliers, fellow utilities, industry standards organizations and regulatory agencies will all have ideas and sometimes have requirements to help you move forward. Working to strengthen those relationships will help to guide your successful transformation into a digital utility.

For example, when looking for a solution partner to join your strategic network, it's important to define for yourself what you think you need to do, but be open to innovative ideas from partners. Here are other questions to pose to potential partners in your utility's digitization journey:



How can you assist me to grow my digital transformation initiatives?



How can you help me to enhance the digital experience for my customers?
For my employees?



What new ideas can you share for applying emerging technologies to my digital roadmap?



What about the cloud? Are there collaborative opportunities there?



Operational agility, now and going forward, is important to my organization.
What can you bring to the table to ensure that is possible?

Reinforce your changes through performance and productivity improvements. Becoming a digital utility is a journey, rather than a destination. Each step in the process may open up new ideas and opportunities for change. As well, it's important to keep employees involved not only in the processes, but in recognition of the benefits that your digital transformation is bringing both to the business and to its customers.

How to get started

As the utility industry continues to change at a rapid pace, it is more important than ever that utilities take on digital transformation as a critical business initiative. Utilities must be ready to adopt new technologies and use those technologies to uncover value.

Turning the challenges of digital transformation into digital opportunities requires an industry partner who is uniquely positioned to understand your enterprise needs in full, not just in part. These industry partners must be innovative champions in the utilities industry with a clear vision of the future. They must have invested considerable time and capital focused on providing end-to-end utilities technologies with a keen understanding not only of utility business processes as they exist today, but also of the flexibility required to innovate for the future, whatever it may bring.

Today's electric, gas and water utilities need software applications and technology to serve as a robust springboard from which to meet the challenges of the digital future. And they need solutions to be delivered more quickly, at lower cost and risk to their organizations. That's what Oracle Utilities offers.

Oracle Utilities is a software partner for utilities around the globe, providing leading-edge, value-driven innovation that is crucial for utilities embracing transformation. Oracle Utilities brings together a worldwide team of utility experts who understand your business, software applications that address mission-critical needs, a rock-solid suite of corporate operational software, high performance servers and storage, and world-leading middleware and technology. The result: proven, flexible innovative solutions with faster implementation times that improve customer experience and enhance operational efficiency to help today's electric, gas and water utilities achieve performance excellence.

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As you begin or continue on your digital journey, Oracle Utilities is ready to partner with you every step of the way. From the inherent knowledge and skills our utilities industry teams possess to the integrated solutions and infrastructure necessary to do it, we have what it takes to drive your digital strategy from paper to practice.

Contact Us:

For more information about Oracle Utilities, visit oracle.com/goto/utilities or call +1.800.275.4775 to speak with an Oracle Utilities representative.







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