

MIT SMR CONNECTIONS

EXECUTIVE | SCHOLAR EXCHANGE

A photograph of two workers in a wind farm at sunset. One worker in a blue hard hat and green safety vest is pointing towards the horizon, while another in a white hard hat and green safety vest looks on. They are standing next to a laptop. In the background, several wind turbines are silhouetted against the bright orange and yellow sky of a setting sun.

Extending the Digital Workplace

How an Empowered Workforce Can Help Utilities Respond to Crises

COMMISSIONED BY:

TATA CONSULTANCY SERVICES



Utility companies must keep a diverse workforce in mind when they tap tech to help employees

— including those in the field who ensure reliable service. Here, an industry executive and a scholar suggest key considerations for this digital workplace.



Sudheer Warriar
Vice President and
Global Head, Utilities
Business Unit, TCS

EXECUTIVE: When utilities field service workers are dispatched to solve a problem, the stakes are often very high. They must be prepared to confront the risks that gas leaks or downed live wires pose to customers and the public as well as their own safety and act quickly. And they must rapidly restore service and trust for customers who depend on utility service as a basic necessity.

These situations are increasingly common for utilities coping with service disruption caused by extreme weather events. Aging and vulnerable distribution infrastructure creates even more opportunities for outages and often magnifies the effects of severe weather.

Utilities' rapid responses to such problems depend on orchestrating diverse roles, including energy traders, control room operators, call center workers, and the field force. Combining technology tailored to each of those work environments with organizational models that enable decision-making can give those closest to problems the information and authority needed to solve them. For field workers, a digital workplace strategy must empower them to rapidly access information, collaborate with remote colleagues, and stay safe as they deliver on the customer promise.

Consider these scenarios:

- A remote electricity field worker may be sent on his own to an unfamiliar location to assess storm damage. He needs

real-time, multimedia communication to stay safe, understand how to access utility assets, capture sufficient information to create work orders, and estimate the time to restore service.

- Mutual aid workers who travel to help a partner utility in an emergency must be integrated into the workforce via collaboration with the home team, using tools that enable local experts to share their contextual knowledge.
- Field workers handling gas emergencies must do safety-critical work very quickly. Rather than having to reference manual, approximate drawings of buried assets, they can view accurate, digitized pipeline images via augmented reality.

While digital tools are immediately relevant to the job as it is currently done, more transformative effects can be unleashed when they help workers to be more creative problem-solvers. When new technologies allow humans to use more of their unique abilities, workers are more likely to embrace change.

Stepping Up to Digital Empowerment

Anxiety about new technology can run high in any workplace. Natural worries about the ability to change and learn something new are often compounded by a sense that the human is being commoditized. When leaders bring an empathetic perspective and deliver a sincere message of empowerment, they can effectively dispel that anxiety.

Utility field workers are empowered when they are able to draw on the best information available about a problem, develop and apply solutions on the ground, and communicate back >>>



up the hierarchy to influence further action. They need to hear the message, “We want you to be thinking, we want you to be proactive, we want you to be improvising, and we want you to generate ideas. We want you to continuously contribute to improving the customer experience.”

Technology is a means to that end, but it also requires that leaders are open to all stakeholders’ ideas for problem-solving. Organizations should support some autonomy in decision-making and prioritize fast responses when those close to a problem need authorization to act. With more information at hand via digital tools, a field service worker may identify a better solution. Communication technology should make it easier to get permission to implement that solution. Collaboration tools can also help peers help one another, even at a distance. For example, field workers can crowdsource solutions by calling on others with relevant expertise.

Underlying It All: Foundations for Transformation

While a successful digital workplace project requires attention to those human elements, it must be built on a foundation of digital transformation. Key underlying elements for utilities are a “digital spine” that carries key data — for example seismic, grid, and outage alerts — as well as workforce management, supply chain management, and geospatial systems. These underpinnings, in turn, support the intelligent enterprise, comprising algorithms built for insight-driven decision-making and autonomous operations.

This foundation of data, process-specific systems, and intelligence drives the actual digital workforce technologies, which should be built with a human-centered perspective that caters to workers’ unique roles. Utilities must deliver interfaces to field workers that are easy to use in the range of environments where they perform their jobs, using the appropriate communications channel. Tailoring capabilities to a variety of potential users is important. For example, content and data might be repurposed for delivery to a mutual aid worker, who needs

more geographical information than do local employees. And a lightweight channel, such as a messaging app, may be the best mode of communication for such temporary members of the field force.

An Agile Approach Fosters Buy-In

An agile approach to development and deployment is a key success factor to adoption and hence leads to more rapid return on investment. This is especially so when new technology enables changed work processes. The agile philosophy is fundamentally a collaboration among different stakeholders, all of whom understand the big picture or goal and know the value they contribute within that. Agile’s incremental approach, where end users contribute to a feedback loop of iteration and improvement, supports this collaboration.

In practical terms, an agile approach to deploying new technology and new ways of doing things to field workers must involve representatives of that workforce at the start, when their needs are defined and the digital workplace tools are specified. It must include them in testing prior to rollout, which is especially important given the variety of difficult, real-world conditions many field workers confront each day. And it must be transparent, so that workers understand why and how the project is being done and the value they will gain not only from using new, >>>

“When new technologies allow humans to use more of their unique abilities, workers are more likely to embrace change.”

unfamiliar tools but also engaging with work processes that may become more real-time, dynamic, and collaborative.

Ultimately, the benefits of digital technology will accrue to organizations that enable humans to do what they do best, supported by intelligent automation delivering what it does best. The value of humans doing the same job faster is not the value we should be looking for. That is something a machine can do. The real value of digital tools in the workforce is in enabling people to think on the ground and improvise to solve unique problems — to contribute in ways only people can.

Sudheer Warriar is President and Global Head of the Utilities Business Unit at Tata Consultancy Services, a position he has held since 2008. He has close to 30 years of experience in the IT industry, 28 of which have been with TCS in various aspects including systems architecture, application migration and reengineering, consulting, program management, sales, and operations. He holds a bachelor's degree in computer science from the University of Mysor in India.

“Companies that are becoming better at delivering a great employee experience are looking for what I call workplace speed bumps — all the things that make it hard for us to do the work we need to get done and all the things that slow us down when we need to speed up.”



Kristine Dery
Research Scientist,
MIT Sloan CISR

SCHOLAR:

Key Success Factors for the Digital Workplace

When the digital workplace is thoughtfully implemented throughout an enterprise, the improved employee experience can offer considerable value to the organization — more innovation, greater profitability, and higher customer satisfaction.

Empowering workers in the field, such as those on the front lines restoring or repairing utility services, with digital workplace tools likewise has the potential to improve these employees' experiences and their ability to resolve more complex problems quickly. To realize that potential, organizations must reconsider how the work is done and foster a culture where individuals can share knowledge and solutions across functions and hierarchies.

Here are three things utilities executives should include when developing a digital workplace plan that includes the field force:

1. Rethink the work that tools are designed to support.

The acquisition of new technology should ignite new thinking about how we could reorganize work and how we could work more effectively using these new tools. Without rethinking how business rules or decision rights may need to change or how leaders lead, tools and technology can just be a veneer slapped on top of an old way of working. And because the new way of working may be constantly changing in a more digital enterprise, consider how the tools themselves can be flexible and support an adaptive work environment.

2. Look for speed bumps.

In our research, we've seen that companies that are becoming better at delivering a great employee experience are >>>



“Because the new way of working may be constantly changing in a more digital enterprise, consider how the tools themselves can be flexible and support an adaptive work environment.”

looking for what I call workplace speed bumps — all the things that make it hard for us to do the work we need to get done and all the things that slow us down when we need to speed up. These may be tiny things like multiple passwords or a business rule that’s been hanging around for ages, or they can be much larger things that are making it difficult for people to operate in the way that they need to — accessing information or sharing knowledge, for example. One of the biggest differences we saw in high-performing companies in our study¹ was that they were actively looking for these problems, and they had mechanisms in place to triage and act on them in a very transparent way.

3. Foster information-sharing to enable problem-solving.

We know that companies that are really effective in employee experience are two to three times more likely to have a very active enterprise social network, with discussion that’s breaking down hierarchies, working across silos, and enabling people to share information and knowledge — and create meaning out of that knowledge. That’s the lifeblood of transparency in an organization.

In the old world of command and control, we told people what we wanted them to do, and the feedback loops consisted of people telling us where things were going wrong. People out in the field or dealing with customers might identify a problem and pass it up the hierarchy to be solved. In the new world of digital, what we’re increasingly seeing is the empowerment of people throughout the organization to not just participate in contributing ideas to solutions but find the solutions themselves.

This is relevant to crisis scenarios faced by utilities battling weather-related outages, for example, or infrastructure failures. A crisis situation, by definition, is something most people

haven’t seen before, so it becomes imperative for front-line workers to share both data and experiences and be empowered to use that information to solve problems. It’s a world of work that’s less about manuals and much more about the exchange of meaningful, real-time information. When both digital tools and the organization’s culture enable those on the ground to not just have great access to information but also be able to share their knowledge and experience, workers will be equipped to act more quickly to resolve a crisis.

Kristine Dery is a research scientist at the MIT Sloan School of Management Center for Information Systems Research. She is currently investigating the design and management of the workplace to understand how organizations use digital capabilities internally to create more effective ways of working and the impact of new ways of engaging with talent in the digital era.

COMMISSIONED BY:



TATA CONSULTANCY SERVICES

Experience certainty.

MIT SMR Connections develops content in collaboration with our sponsors. We operate independently of the MIT Sloan Management Review editorial group.

¹ K. Dery and I. Sebastian, “Building Business Value With Employee Experience,” MIT CISR Research Briefing 17, no. 6 (June 2017).