Digital-experience design for the field workforce

By focusing on valuable and meaningful workforce experiences, utilities can move from incremental improvements to transformative ones.

Digital transformation has become the norm in industries such as banking, healthcare, and insurance. Driven by rapidly shifting customer expectations, organizations in these sectors have turned their operating models inside out, with lean, powerful digital teams delivering customer-centric solutions that have tremendous impact on the bottom line. But what about those left behind—companies with complex physical assets and high-risk operations that depend on a field force to keep things humming day after day? What does "going digital" mean, in fact, for utilities, oil and gas majors, telecommunications companies, and the like?

When you 'go digital' you can choose to optimize or invent

Some companies might have dabbled in digital transformation by picking off low-hanging fruit—via back-office process automation or fleet optimization using GPS data, for example. These low-risk, low-reward interventions might improve efficiency, but they pale in comparison with the disruptive value that digital solutions have delivered in other industries. To catch up, leaders in lagging sectors need to think in much broader terms: not about pursuing individual digital projects or solutions but about reinventing entire business processes from beginning to end to drive efficiency, slash

costs, and ensure a safe environment for employees. Work must be redesigned to focus on high-value tasks and eliminate waste, wandering, repetition, and risky practices. Digital tools can help with this, of course. But if a company wants to turbocharge adoption and transformation, it needs to reimagine radically the way it builds and releases solutions.

Too often, companies think up ways to "help" field employees do their jobs better without understanding what these jobs actually entail. Pushing one-off solutions and off-the-shelf applications from the center out to the field, they too often miss the mark while fostering resentment and mistrust. Field employees can become worn down by cycle after cycle of half-baked solutions, each with some minor but annoying tweak in process or paperwork. All the while, these seasoned professionals know better than anyone how to improve their day-to-day work. But no one thinks to ask them nor even how to include them.

So, what is the answer? In short: pair design and digital thinking to get people working together in a broader organizational and cultural transformation. Include field employees in the design process, make them allies, plumb their deep expertise, and think about how they spend their days—not just the actual jobs—to build solutions that field workers not only use but also love. There is nothing revolutionary about focusing on customer experience; it has been key to innovation for some time. It is no secret that successful disruptors, at their core, have a maniacal focus on the customer. The new factor is how it is done: by turning the lens inward toward employees and focusing the *internal* customer experience on value

creation. Companies that get it right boost adoption, rejuvenate relationships among employees, and improve productivity, all while delivering products more quickly and cost-effectively.

That result sounds good, but how do you do it? The process of designing great solutions for employees is much the same as doing it for customers, but there are a few important differences and some simple principles to raise the odds of success. Following the seven principles we outline can dramatically improve not only the products field-force employees use but, more importantly, the processes used to design and deliver them. A digital transformation in field-force operations based on such principles helped a utility become one of the most innovative in the world (see sidebar, "How a utility designed field tools that technicians want to use").

1. Get out of the office
Designers and developers can talk to process owners and lean experts all they like, but unless they spend real time with employees as well, everything they think happens in the field will be an educated guess. Get them to ride along with a service representative for the day, spend time with a supervisor in the office, and then map out how the two interact. There is no substitute for first-hand knowledge, contextual insights, or relationships built during a day on the front line. And they shouldn't be afraid to ask "dumb" questions; most experts love explaining what they do. Importantly be sure to quickly share the insights broadly. Empathy empowers the organization, and product-design debates can be settled quickly with "This is how the users want it."

2. Avoid digitizing the status quo

Do not just digitize what field employees already do. Use the design process to ask hard questions about real needs and find opportunities to *invent*. Challenge any "this is how we've always done it" mentality. Taking a paper form, digitizing it, and putting it on a tablet, for example, is an easy fix but almost never the right one. Reimagining the entire process of data generation, capture, and validation from a user's point of view is the only way to unlock real value and real improvement.

How a utility designed field tools that technicians want to use

Building a product-design function at a utility might seem counterintuitive, but one US utility has done just that and seen safety, reliability, and efficiency soar—to the tune of $10 million in annual savings. By adopting design thinking and following a few simple guidelines, the utility not only created tools to improve the productivity of its field-operations specialists but was able to slash change-management costs and the price of adoption. And because the workforce and IT team built solutions together, the finished product was exactly what both the end users and the company needed.

The utility maintains assets, including poles, power lines, and plants, worth hundreds of millions of dollars. Maintaining that infrastructure is the job of its compliance department, a team of workers who patrol and inspect every facility in the service area. Until recently, they documented their inspections on paper forms filed away in boxes in local offices. Numerous IT efforts had tried to replace this inefficient, cumbersome process with streamlined digital solutions and had spent nearly $50 million with nothing to show for it. But it was a design-thinking approach that finally unlocked the solution.

The team spent hundreds of hours in the field with technicians, shadowing their work and understanding everything that went into their important and often dangerous jobs. Together, the designers and operations employees identified key needs in getting the jobs done, including virtual maintenance records, navigation services, better information about access to customer sites, and improved safety alerts. The team then produced an iPad application that worked offline and had automatic updates—a first for the utility.

But the effort did not stop there. Designers developed concepts, such as real-time video-collaboration tools and a "find-a-friend" layer on the map that shows the location of other compliance team members should someone need backup (or just want to meet for lunch). Previous efforts would have designated these features as low-value, "nice-to-have," or too difficult to build. By thinking about the compliance inspectors' entire experience—and what was *valuable to them*—rather than just digitizing their work processes, designers could foster a genuine sense of empathy with them and give user-centric collaborative features high priority in product roadmaps.

This new trust changed the calculus around digital technology for field operations. Once a cost center, it became a source of cost savings. By building products that users wanted to use, the utility saw adoption rates soar and the cost of rolling out new technology plummet. In the process, it became one of the most innovative utilities in the world.

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3. Use mobile solutions for the right work

Mobile technology or a mobile-first solution is not suitable for everything. A desktop component might always be necessary for tasks that make considerable demands on people's time and attention. But if context is key and users need information during task flow, a mobile solution might be the answer. Making the right decision calls for an intimate understanding of the work gained through immersive research and observation. Only then can an organization design new ways of working that use digital channels to the best advantage rather than simply because they are there.

4. Make the most of employees' expertise

Most field employees are highly trained professionals who know their work inside out. If solutions try to replace their expertise instead of bolstering and supporting it, collaboration and adoption will suffer. For a development team that truly understands, empathizes with, and respects field users, *pushing* solutions onto the field force will meet with resistance. When a team treats field employees as peers and invites them into the design process through design workshops and product demonstrations, it will create real pull for solutions and important advocates among the field workers. Identifying and engaging with the experts as early as possible will not only improve the eventual solution but also reduce the need for complex adoption and change-management efforts when the product is ready for release.

5. Look for common ground

It can be tempting to think that every kind of field work requires a separate application designed to suit its specific characteristics,

but this is not so. Some field activities are unique, but many share common tasks—such as inspect, record, locate, and report—that a single suite of solutions can scale across multiple business units or field teams. By focusing on uncovering the similarities among processes rather than looking for the differences, companies can simplify their portfolios, speed up releases, and broaden the impact of their solutions. To achieve that goal, product teams should have a bias toward reusability from the outset, always searching for modular solutions that can solve more than one problem.

6. Treat the field force as the end user

Do research. Build empathy. Be transparent. Ask questions. Test often. Follow the "do-no-harm" principle. Act as an enabler and facilitator rather than just a solutions provider. Involve field workers, inspectors, engineers, and plant supervisors in every stage of product development. Invite them in for design reviews. Hold product demonstrations in every sprint, and get the field-force response to features during the product's evolution. Put rough-and-ready prototypes into their hands to get insight into possible refinements. Replace big-bang product rollouts and elaborate change-management campaigns with iterative releases that allow plenty of time for solutions improvement. Build impact metrics that consider end-user satisfaction as a critical measure of success.

7. Take advantage of the familiar

Thanks to the ubiquity of mobile technology, we are all acquainted with basic interaction models: swipe right to "go back," check out the hamburger icon to access the menu, let form fields autofill. Great product teams exploit as many of these standards as they can. By frequent testing with users, designers can

uncover and steal user-experience ideas that users already know and like. Even the most technology-averse people probably use smartphones in their personal lives, and by keeping things simple and familiar, companies can both reduce time to market and cut the cost of training and change management.

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At companies with large, distributed workforces, there is often a divide between the users in the field and the team members in the office who make tools for them. Adopting design methods and deeply collaborating across the organization can help bridge that divide. The benefit is too great to ignore: generating a step change in employees' productivity and happiness is possible by fashioning the kind of delightful experiences that everyone craves, whether at home or at work. By keeping a few simple rules in mind, product teams can save time, build relationships, and deliver fantastic solutions that their field-force customers will not only use but really love. ◆

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