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Rebooting your stalled digital transformation in oil and gas

Companies often struggle to make the leap from successful pilots to organization-wide rollout, and in many cases transformation efforts have essentially stalled. Knowing where you stand and what to do next can help you quickly get back on track.

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Does this sound like your company? You've been investing in digital and advanced-analytics solutions for at least two or three years. You've set priorities, given them plenty of leadership attention, and hired new talent to build your organization's capabilities. You've invested in new technologies, software solutions, and external support to make sure you're on the right path. In short, you've done everything you can to make your digital transformation a success. Yet you can't help feeling that it is stalling.

Don't worry; you are not alone. Among the oil and gas executives we have spoken with in recent months, only a few felt their digital transformation had met their expectations. But what about the majority? Were their aspirations too high, or were the returns too meager to justify the effort? We suspect there may be a simpler explanation; in our experience, transformations often stall just as they are starting to be scaled up. Fortunately, companies can get their engines running again with a few carefully targeted actions.

Has our digital transformation stalled?

A digital transformation doesn't stop at software updates or the introduction of new devices; it marks a fundamental change in how people work and how an organization delivers value. The difference between "before" and "after" should be clear for all to see. But if your digital transformation has been underway for some time yet things look much the same as ever, chances are your digital journey needs a reboot.

Here are a few telltale signs to look out for:

— *Pilots haven't gone anywhere.* You've run multiple pilots but have yet to see any sustained everyday use of digital working methods, except in the odd business unit. One independent launched more than 300 digital initiatives before discovering it didn't have enough insight into performance to be able to track their impact or judge when and how to roll them out across the organization.

— *Results are lacking.* You have new technologies in use here and there, but you'd be hard pressed to pinpoint any tangible bottom-line impact. One executive at a Middle Eastern national oil company admitted that despite deploying crawlers, drones, and all kinds of new equipment, the business had yet to see any obvious improvement in performance.

— *People are going back to business as usual.* The individuals charged with running your digital initiatives are starting to drift back to their original departments. Any talk of "mission accomplished" or "moving back to operations again" could mean that your transformation is in danger of winding down just at the point when it needs to kick into a higher gear.

If you recognize one or more of these signs, try stepping back to understand your situation (see sidebar, "A quick pulse check").

Has progress stalled? If so, it helps to understand the underlying factors so that you can take appropriate remedial action.

Why our transformation has stalled

In moving from the experimental pilot stage to digital transformation at scale, many organizations run into three common roadblocks:

— *A disconnect among the solutions you are building, the needs of your end users, and your business goals.* Too many oil and gas companies find the new solutions they develop are never fully adopted by the intended user groups. Six months after being introduced, new dashboards, integrated software solutions, and analytics tools are nowhere to be seen. If you didn't involve your end users from the start, you may have developed a solution for a problem that doesn't exist, or a tool that is too cumbersome to be worth using.

— *A lack of the right 'data plumbing.'* Once a digital solution has been developed, it quickly becomes

obvious that new structures and processes are needed to get the right data to the right people at the right time—what we might call data plumbing. But making the necessary changes to IT infrastructure can be a struggle. There may be conflicts with legacy support requirements, too few technical staff, unforeseen demands on budgets, or limited buy-in from the IT department. However well your minimum viable product runs in a "sandbox," moving it into full production is a challenge of a different order, and requires scalable access to data before it can deliver value.

— *A failure to embed radical changes in ways of working.* To realize the potential of a transformation, organizations need to move on from traditional working methods, review established mechanisms, and foster an experimental mind-set. Change is hard: few leaders appreciate how much sheer effort it takes to bring about a fundamental transformation that can be sustained over

time. The failure to embed change is often exacerbated by a lack of performance rigor. If organizations don't monitor and measure impact meticulously, they won't understand which initiatives are achieving results and which need adjusting to be effective.

The good news is that these roadblocks are a normal part of digital transformations and can be overcome with the right approach.

How can we get back on track? Five steps to a successful scale-up

Our experience with companies that have managed to scale digital and advanced analytics in oil and gas—and in asset-heavy industries more broadly—indicates that winners take care to get five things right:

1. *Deliver bite-size benefits to drive adoption.* Ensure everything you do starts delivering impact within three months. Introduce key

A quick pulse check

If the signs of a stalled digital transformation sound familiar, it's time to take stock of where you are and understand how much further you have to go. We suggest you spend a few minutes thinking about these questions:

1. Is our portfolio of digital opportunities aligned with the value-improvement levers for our business on the one side, and the feasibility of capturing them on the other?

2. Do we have a clear view of how to scale up individual solutions across

our business units and functions by ensuring ease of use and promoting adoption by end users?

3. Where do we stand on these critical enablers?

   • the right people in the right numbers to build and implement solutions

   • an agile way of working, with appropriate performance management

• a technology environment that allows seamless access to data

• the right data strategy and decentralized data governance

4. Have we specified how new digital solutions will be integrated into our existing performance engines and business-management systems?

Digital transformation is too fundamental to the business to be treated as a functional initiative.

performance indicators (KPIs) for actions such as log-ins to a new tool per day or minutes of use per day, then make these KPIs central to your daily conversations from the top to bottom of your organization. At one oilfield-technology start-up, the president's mantra was "URTs 'til it hurts"—a reference to unassisted repeat transactions, indicators of whether people are using a digital solution independently in a way that is self-sustaining. And before going any further, make sure you have prioritized your transformation road map in two dimensions: financial and nonfinancial benefits on one side and organizational feasibility on the other. Organizational feasibility is a measure of your capability and capacity to build a given solution and deploy it for maximum adoption. If you've missed this step, make good on it now to give your scale-up strong foundations.

2. *Double-check you have all the capabilities you need for scaling up.* Train your managers to identify opportunities, your front line

to implement solutions, and your leaders to understand what digital means for your business. To get beyond the pilot stage, think through what capabilities your company needs to deliver a constant stream of digital use cases, what skills managers need to make better decisions based on advanced analytics, and what training frontline staff need to deploy new tools effectively. In talking with operators and suppliers across the industry, we hear again and again that equipping talent with the right skills is the linchpin of any successful digital transformation.

3. *Make technology your enabler, not your bottleneck.* Don't let your digital transformation become yet another tech project; it's too fundamental to the business to be treated as a functional initiative. Establish technology platforms with modern environments to support the rapid development and deployment of solutions.[1] If you typically write a ticket for the IT team, wait a long time, and end up with

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[1] For insights into how to create a robust IT infrastructure that drives value creation, see Adrian Booth, Jeff Hart, and Stuart Sim, "Building a great data platform," August 2018, McKinsey.com.

something that's late, doesn't quite work, and costs too much, you need to make radical changes. To scale up your technology-enabled transformation, bring IT and business teams together to build, deploy, and continuously improve solutions.

4. *Democratize your data.* Data are the lifeblood of your organization, and everyone needs them. Overhaul your data strategy and governance to ensure your data are reliable, accessible, and continuously enriched to make them better suited to advanced-analytics applications. Build your data platform piece by piece: start with the data you already have and then move on either by tackling digital opportunities in priority order or by addressing the end-to-end work flows with the broadest scope for impact.

5. *Reengineer your operating model and shift your culture.* To capture the bottom-line value from the use of digital and advanced analytics, make sure your new solutions are fully integrated into your asset-management systems and day-to-day working practices. But as with any performance transformation, revamping your operating model isn't the end of the story; your culture needs to change too. It's hard to overstate the impact of culture, and

companies must address both mind-sets and behaviors. To shift mind-sets, ensure your senior leaders are wholeheartedly committed to your transformation, and get them to role-model the behaviors they would like to see. Communicate a clear case for change to your employees, design simple metrics to hold teams and individuals accountable for outcomes, and overhaul incentives and performance-management processes to support your new ways of working.

If one or more of these five dimensions are weak or missing, we recommend you work on them now to breathe fresh life into your digital transformation. When companies get this right, magic happens. We've seen seasoned engineers with decades of experience become inspired and energized anew when their organization steps up the pace in its digital journey.

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Digital holds tremendous potential for oil and gas operators. For the most part, the industry has completed its proof-of-concept phase. Now it's time to capture business value at scale by treating digital as the top-level strategic priority it is and driving the next wave of operational and performance transformation.

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