

Four Oilfield Service Technology Pitfalls and How to Avoid Them



Profitable service

Consistent service margin in a volatile market

Oilfield service is a tricky business for a number of reasons. But fluctuating demand driven by commodity prices are the root cause behind a number of the challenges executives in this industry face.

Sometimes, demand for oilfield services pushes up against your company's constraints in terms of capacity to deliver. You must maintain a level of service adequate to grow and retain a customer base. At the same time, they must rapidly formalize and scale existing processes as their organizations grow during peak times.

As oil prices rise, exploration and production companies experience spikes in demand. As oil prices drop, they must be prepared to intelligently scale back down and compete hard for a reduced volume of work by improving the customer experience and quoting aggressively without losing money on the work.

According to Deloitte Vice Chairman and oil and gas leader John England, the challenge facing international oil companies and large independents in the intermediate future will be effective management of capital projects.

These projects are projected, according to England, to consume as much as 35 percent of these companies' cash flows. Oilfield services are a major input of these projects, which means that service organizations capable of meeting this demand consistently and profitably are primed for explosive growth.

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1. Poor systems obscure visibility into what work is performed so it can be invoiced.

Many service organizations in the oil and gas industry are still using manual or paper-based systems to manage service contracts and work performed against them.

Sometimes there is no contract or formal list of tasks to be performed. That means the generation of contracts, quotes and work orders for specific projects and invoices is ad hoc processes handled either manually or in separate and standalone software products that hinder visibility.

In this disjointed environment, it can be a challenge to ensure that completed work is invoiced. And indeed, it is not the responsibility of the crew chief charged with completing a work order to complete the final billing process. But the individuals sent to complete a work order are the only ones who possess the knowledge and data on what work was completed, how much time was expenses, parts, travel, equipment rentals and the like. It can be a challenge to track down the lead on each crew and ensure paperwork is turned in so work can be invoiced. Oftentimes, this results in a two- to three-month turn on invoices, which does not help the cash flow of a growing company.

This harms the way a customer organization perceives your company as they are frustrated that invoices come well after they are expected and leads to a higher number of disputed invoices. It is not unprecedented for an oilfield services company to find over a \$1 million in uninvoiced work that may be three to four months past due.

Across the industry, “bill ready” is the desired state oilfield service organizations must strive for. In a bill-ready state, work can be invoiced the moment it is completed, or shortly after management review, with little or no human intervention. Fortunately, using an enterprise software solution optimized for a services environment, it is relatively easy to generate an invoice automatically once the crew chief, on a mobile device, signals that a billable service has been performed or a billable part or consumable used.

This can be achieved through a comprehensive approach to mobile work orders that act as a direct extension to back-end business systems that will deliver information on what work has been completed, what consumables and parts have been used, and other things that are chargeable to a customer, into an invoicing system automatically, in real time. A truly optimized service management environment will also include other processes, including



Oilfield service companies right now struggle with serious functional gaps in the technology they currently use to manage their business and work for customers."

customer sign-off on work, customer-specific pricing, comparison with existing contracts and warranties to ensure work is billable, and confirmation that contract deliverables are met. This all results in better cash flow, lower days outstanding, and fewer invoice disputes.

A service-optimized suite with a dedicated mobile work order app can get customer sign-off that work is complete, which means an invoice can be generated immediately, with no delay or additional intervention. In a manual environment, work performed will likely have to be compared against the terms of the service contract, contract authorization levels, customer-specific pricing or other dynamics. In a comprehensive and optimized system, however, the invoice will reflect all of these factors. So even if a part or consumable or service was not on the original work order, as it is added, the pricing as agreed on the service contract will reflect this change. If some parts or service are covered by warranty while others are not, this will also be reflected on the invoice automatically.

Since all expenses including mileage, tool usage, parts and labor are calculated and invoiced automatically according to the contract, back-office personnel and technicians can focus on managing by exception. Was a service required that was not covered for whatever reason in the contract? Do conditions with the customer indicate there may be potential to secure additional work? It becomes clear that mobile work orders with automated back-end invoicing can solve this problem of uninvoiced work while creating the opportunity for additional revenue.

And therein lies the next important trend in mobile work orders. If a technician or crew arrives at a customer site, and work is required

that is not defined in a work order, the crew chief or lead technician must generate a change order quote for the customer, get that quote approved by the customer and then generate a change work order. Increasingly, it will be desirable for someone on site to be able to manage that entire service lifecycle with a mobile solution, taking the entire quote-to-cash service lifecycle onto a mobile device.

2. Technology fails to streamline and automate quote to cash, which causes problems during periods of high turnover.

Particularly during peak times when competition for workers is fierce, the ability to keep people is a problem in the industry.

Many companies have lost knowledge and even data on billable work when their key people leave. This means an enterprise software application must reliably capture data on the entire contract lifecycle, the service lifecycle, customer lifecycle and the lifecycle of each asset deployed for a customer. Otherwise, the data you need to service your customers could walk out the front door at any time your competitor offers more money.

So an enterprise service solution must create a transactional record of what work has been performed for each customer and how that work relates to the underlying contract. This data must be available to workers that may not have been directly involved in performing the work so they can understand what has been done, what is billable and what is required by each customer and project.

An enterprise software solution should record any time work is performed, an asset is serviced, a technician or crew visits a customer site or a customer is invoiced. An enterprise application may also be able to capture more ad hoc communication and unstructured data. Modern enterprise software with embedded social collaboration tools allows employees to add "sticky notes" to any record in the system. A discussion of a customer and their billing preferences may be attached to the customer record.

A threaded discussion about diagnostics for a heat exchange unit can be attached to the equipment object, preserving the insights of a talented technician who may have already left the company. These tools are designed to capture unstructured interaction and domain expertise that is difficult to document.

An enterprise application for oilfield service also ought to include integrated document management. This embedded document management tool should allow you to attach any form of communication or document to a given work order, customer record, or equipment record. Again, this is one more way to preserve contracts, customer correspondence, equipment manuals, email exchanges and other communications indelibly in your enterprise application.

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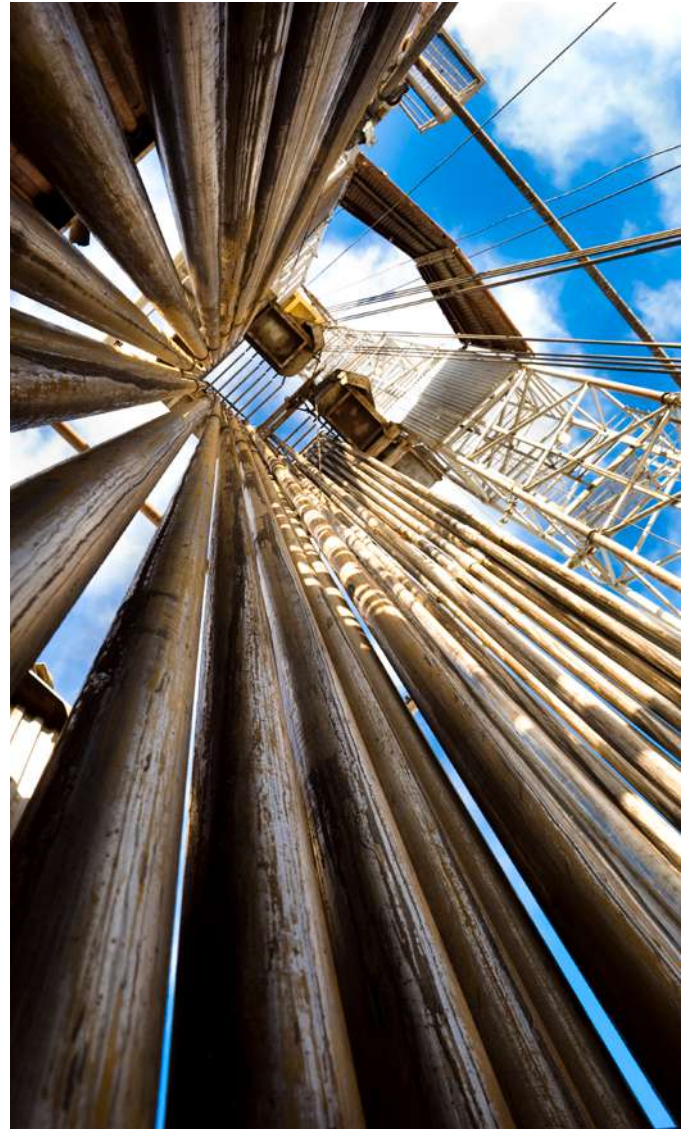
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With the right enterprise application, the question will become not so much how to avoid loss of customer- and project-related data but rather how best to view it in a way that helps newer employees come to understand the customer, their equipment, the contract deliverables, and the related job requirements.

A crew chief should be able to retrieve the previous two or three work orders for a customer before engaging in work with them. The chief can then disseminate detail to the crew much more quickly.

Crew variability happens even in the absence of staff turnover, so there is a good chance that you will work on the same recurring problem multiple times without realizing it because the individuals on the team have changed. This easy access to historical information can signal the technician or crew chief that they had better ensure a frequently-failing part is present in their truck, or have it shipped to the customer site prior to the visit. Otherwise, a first time fix is unlikely, and the service call may double in cost.

For more demanding service work, it may be critical to assign an experienced crew or a crew with specific skills. In these cases, a scheduling tool with intelligence about skills, availability, geography and cost may help in identifying the right set of resources for a given work type.



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3. Software fails to provide tools to manage expensive mobile capital assets.

Oilfield service companies make major investments in capital assets that may be rented out or otherwise deployed on site for project work. But they often have no visibility into where this equipment is, its condition or state of readiness.

Trucks, backhoes, workover trucks, seismic equipment, instrument air systems and more can all be misplaced or lost permanently. Lost equipment can easily account for millions of dollars in losses. Tracking equipment and its location is critical for a number of reasons. First of all, you do not want to lose equipment, something that is fairly easy to do when deploying capital assets in dispersed, remote environments. Second of all, when equipment is deployed in the field, it may require scheduled or break-fix service, and you will need to determine where it is so technicians can be dispatched accordingly.

Moreover, a piece of equipment may be billable to a customer every day that it is out, so losing track of the location of that asset translates directly to lost revenue. When the equipment is transported from one site to the next, that movement will be reflected in the system as well.

If a vehicle is making multiple stops on a daily or multi-day route, its location can be tracked by breadcrumbing, essentially tracking the completion of each service event that is completed and reported through mobile work order software. Tracking the movement and location of equipment in this fashion requires, of course, a high degree of integration between

the equipment object, projects, and service management.

Existing mobile order functionality for equipment tracking can be complemented with the use of global positioning systems (GPS). GPS is a valuable complement to other methods, and IFS Applications can open the equipment record through a simple web service and pull in GPS data.

But it is important to see GPS data in the context of the overall project and service lifecycle. For instance, when a work order is created, software may be configured to do a web service call to find out where it is located. But what if the customer or some other party plans to move the asset that day? How do you know that unless you have visibility into the project schedule? You may also need to automatically schedule emails to a customer before you dispatch a crew to work on an asset so they can account for it in their schedule.

Moreover, it may also be necessary or desirable to integrate reliability-centered maintenance so you can determine whether a given service call must be completed before a piece of equipment comes back to the yard or depot. If it is not mission critical, that service could be completed a few days later with no need to dispatch a crew or technician. Or if the asset is currently in the yard but is due for service after only a few more weeks or duty cycles, it may make sense to do a specific maintenance activity early if it is about to be deployed on a customer site for a period of months.

So overall, the ability to view a preventive maintenance activity in the context of the equipment criticality and priority of the work type is important.



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4. Technology pins you down and does not allow you to adopt new technologies and business models.

Very few software products on the market today adequately deal with the considerations listed above—and these are current and essential for daily operation today. Fewer software products still have existing functionality or a roadmap to deliver software to:

- Sensor customer equipment to automate field service processes through the internet of things (IoT)
- Artificial intelligence (AI) tools to press cost out of and increase value delivered through customer interactions
- AI-driven inventory management to balance lean inventory and capacity for surprise orders
- AI scheduling of field technicians that lets you adjust the schedule for work crews in real time, meeting service level agreements (SLAs) even as emergent customer requirements

These are the disruptive technologies that, once embedded deeply into the business processes, can help you leapfrog competitors so you have an easier time winning and retaining business.

This is critical in those times when oil prices drop. These technologies can also help you complete more work with fewer people so that you can accept more of the work available to you during peak times as oil prices rise.



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But don't overlook the more subtle technologies—like the plumbing in an enterprise application that enable you to profitably price, sell and deliver an aftermarket service. As customers contract more for outcomes than discrete equipment—hours of operation, resources extracted—you will need software agile enough to price and support these contracts.

Conclusion

Oilfield services is a growth industry, and that means many companies in this segment must quickly adopt the business processes necessary to scale up and then scale down their operations while maintaining the integrity of their work. Companies in this sector also need to prepare for a future where the customer wants to compensate them in new ways. You need to select software that will allow you to profitably exceed customer expectations today. And your vendor must be well on their way to delivering the solution you need tomorrow.

About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations. Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers—at the Moment of Service.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector. Our team of 4,000 employees every day live our values of agility, trustworthiness and collaboration in how we support our 10,000+ customers.

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