

Knowledge management drives performance improvement

Companies can leverage their data-collection activities to improve operating efficiencies.

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While energy companies have invested in new technologies and tools to collect more data, most have not taken the next critical step of turning those data into what could be a transformative business process to optimize operations.

A recent client of The Marshall-Teichert Group (MTG) was the head of the upstream well work services organization for a major worldwide oil and gas company that desired to transform the organization into one that was achieving “best-in-class” performance. The first step in that process was to critically assess the organization’s current level of performance, forcing the realization that the organization was falling far short of its desired per-

formance level. More importantly, the organization had to find a way to chart a path that would start to move it closer toward its goal.

The organization wanted to focus first on three large, mature assets in the US in various stages of declining production, with the complexity of the work varying significantly from field to field. While the well work services organization was responsible for the monies it spent and the project results, it did not own the budgets for work it managed.

A critical analysis of the organization’s behaviors, processes, metrics, tools, and decision-making and management processes uncovered several gaps between the current level of performance and best-in-class performance. Key findings revealed that:

- Metrics and targets for performance were nonexistent for cost control, cycle time performance, and well work project production gains;
- The data-collection tool the group used was cumbersome and ren-

dered ineffective as a result of ineffective training and the perception that, while the tool was required, it offered little to no value for the organization’s team members;

- Roles and responsibilities among the well work services group, its own service providers, and other functional groups necessary to plan and execute projects were poorly understood and ill-defined; and
- Although large amounts of money were allocated each year, the group did not have a method to determine how well the money was being spent and at what rate. As a result, the well work services group found itself running out of money four to five months before the end of year, bringing a premature end to planned projects and with a corresponding reduction in production.

As a result of those findings, a number of training and development sessions were conducted to broaden and enhance the group’s management, data analysis, and planning skills. MTG also provided training and coaching to drive the group to better define and clarify individual roles and responsibilities. However, key to achieving best-in-class performance was defining an improved set of performance-focused metrics. The new performance metrics and a performance dashboard were created to report and manage the metrics that were focused on four main areas:

- Environmental and safety;
- Project cost-control;
- Cycle time; and
- Production improvement.

Key to achieving best-in-class performance was the concentrated effort to define an improved set of performance-focused metrics.

PERFORMANCE DASHBOARD METRIC COMPONENTS

Environmental & Safety	Project Cost Control	Total Cycle Time	Rig Cycle Time	Production Improvement
Spill Incidents Contractor Incidents	Well Completions			
Employee Incidents	Well Workovers			
Preventable Vehicle Incidents	Recompletions			
Total Vehicle Incidents	Plug & Abandonment			

New metrics, knowledge management protocols

While MTG's client recognized that performance-focused metrics were essential to fostering and driving the well work services group's efforts, group members also realized that they would have to retool and reengineer their current data collection and knowledge management processes to generate the type of metrics that would drive and facilitate significant performance improvement. Like many large companies, the client was rich in data.

However, the organization's current process had several roadblocks that had to be removed if a performance-driven and performance improvement-focused culture was to be created.

The first roadblock was the fact that even though there was a concentrated effort to enter and collect large amounts of data, the organization had failed to turn that data into useful business information.

The second roadblock was that the organization's existing rules and definitions for data entered into several disconnected systems were ill-defined and controlled, which meant the time and effort spent entering data was useless.

To facilitate better management of the work performed by the well work services group, a robust performance dashboard was designed and implemented that would pull well work data from the three databases the client organization had used to warehouse data. The new performance dashboard provided every level of the organization with a view of current and past performance against specific performance-stretching targets. Simply put, the performance dashboard was designed to indicate whether the group's performance and project expenditures met, exceeded, or fell short of expectations. Because the well services group

now had a robust report card, it was able to begin the process of critically reviewing each of its work-based decisions to ensure that planned projects were being managed properly and production was being optimized.

To ensure the information presented in the performance dashboard was accurate and reliable, considerable effort had to be made to redefine data-entry protocols and retrain the team regarding data definitions and data-entry rules. With the rollout of the performance dashboard and improved

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data-entry protocols, the well work services group could move toward best-in-class performance.

Improving performance

Although the journey was a challenge, it was driven not by some lofty aspirations but by specific performance targets created by the well work services team. Once the performance dashboard was in place, specific targets were generated for each individual operating entity. The targets were based on historical performance as well as the recognized need for improvements across the board in environmental and safety performance, project cost-control performance, cycle time performance, and improved performance in production

(primarily putting wells back on production more quickly).

To keep the team focused on the performance targets, monthly performance reviews were conducted at each operating area to review how well the team performed against specific targets and to critically analyze why certain targets were missed. As a result, the primary causes could be determined and corrected quickly. Conducting the root-cause analyses required the field team to include engineers from the regional office and key personnel from their service companies.

The management team had a key role in driving the team toward its goal. It had to show its interest in and the need for the endeavor by active participation in the monthly performance-review meetings. It also had to lead by example by personally using the performance dashboard to drill down on underperforming areas and by regularly asking questions to get the team thinking about other improvement possibilities. In other words, management team members had some homework to do before each meeting so that they were at least as prepared, if not more prepared, for each performance-review meeting as the rest of the team.

The effort toward best-in-class performance for the well work services group started with the team's desire to provide better service for its internal customers and to provide more value to its company. In many respects, however, the journey has just begun. The team has implemented better and more specific targets. It has a process in place that will provide an opportunity for the team and its members to learn from the improved information gleaned from the company's efforts to collect the right data. However, there always will be improvement opportunities to identify areas for improvement. **ENR**