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Enterprise Asset Management to Drive More Efficient Operations

Overview

Oil and Gas companies continue to drive efficiency in their operations as they focus on meeting the growing demand for energy. Yet they face many challenges as they drive for more cost-effective exploration and production while maintaining high health, safety and environmental standards. An aging workforce, aging infrastructure, regulatory requirements and price volatility are among these challenges.

Enterprise Asset Management is one area in which companies have invested to improve operations through better data capture, visualization, analysis, and automation. Many improvement opportunities exist in real-time production surveillance, drilling and completion optimization, supply-chain and materials management and oil field equipment reliability and maintenance.

When we talk about **operational excellence** we are talking about how we can continuously improve our level of service at lower costs. This includes both our physical assets and equipment, human capital and how we use the data and information we have available to make better operational decisions. To do this, we need better **operational intelligence**, which is a function of data and information quality, delivered across the right time scale.

Basically, **operational excellence** is about information enabled, event-driven decisions – tactical and long term - across multiple domains and process workflows from geo-science, drilling, production, transportation and refining operations. Today, supporting systems are scattered with hundreds of applications, many that are custom developed, having propagated redundant and inconsistent data stores and silos across engineering, geo-science and operational domains making it extremely difficult to access and effectively use data or information.

Oil and Gas professionals can spend more than half of their time searching for, assembling and formatting data instead of analyzing it in order to make better operational decisions. An opportunity exists to combine the industry's best monitoring and instrumentation capabilities with data mining and predictive analytics – providing real-time operational intelligence resulting in improved decision making.

To enable **operational excellence** and improve **operational intelligence**, three key priorities will impact the industry's ability to drive more efficient operations. These include: ***standardization, convergence and collaboration***.

Standardization

Standardization enables benchmarking, quality assessments and process improvements that ultimately drive performance optimization. Unfortunately, today's portfolios are fragmented, disparate applications resulting in redundant, inconsistent and generally poor quality data. To address this issue, companies are investing in open, standards based architectures as a means to capture and use this information for actionable insight while driving scalability and lower cost of ownership.

Convergence

Advanced field instruments has created an explosion of data that can connect operations, in real-time, to drive operational optimization. Convergence can offer tremendous opportunity to improve operations – business model transformation, shifting of assets and risk – but, it also introduces significant and new risks if they are not properly managed. One challenge is cultural: as more and more assets become **more intelligent, instrumented** and **interconnected**, the lines between operational and infrastructure IT become more and more blurred. Does Operations have the IT skills to enable and support this capability? Does IT have the operational background and experience to enable and support this capability? A complete infrastructure approach to manage all assets in a single, scalable solution optimizes the capability to manage new services.

Collaboration

Oil and Gas organizations with more mature asset management practices around operational excellence have been found to have highly collaborative processes and cross-functional work teams in place. To drive more efficiency around operations, a key priority is enabling these groups to work collectively. Companies having less mature asset management practices typically have their own "version of the truth", different information silos, much of it redundant, and not surprisingly, little consistency across them.

Getting these groups to work together means getting them to work from a common process perspective based on an integrated information framework based on open architectures and industry standards. The real driver here for more **efficient operations** is getting these traditionally disparate teams working together.

In conclusion, the opportunity exists to improve operational intelligence. Today's solutions must focus on improved monitoring and instrumentation capabilities with data mining and predictive analytics. To accomplish this, companies must be able integrate, model and analyze data across different domains, process areas and time scales for improved decision making.

William S. Ely

Global Industry Executive Oil & Gas Industry
IBM, Maximo Asset Management