

How Digitalization is Driving Shale Success

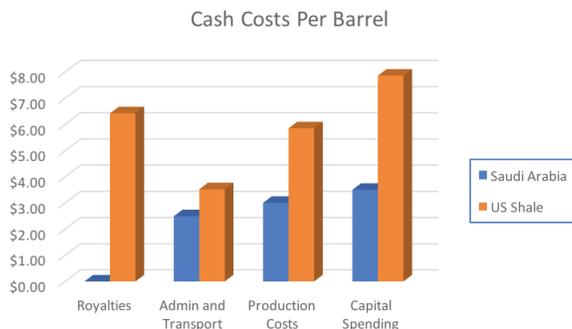
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By Dave Savelle, Oildex



It is hard to remember as the oil and gas industry laboriously inches its way out of the worst downturn in its history, but in late 2014 things were actually pretty healthy. Oil prices had been depressed from their recent high thanks to a slowdown in the Chinese economy and prolific North American shale production. On November 23 of that year, word came from Vienna that the OPEC member countries would maintain their current production of 30 million barrels per day despite the global oversupply.

With huge reserves in shallow land-based reservoirs and no weather constraints, some of the OPEC producers have natural advantages over other producers. Combined with a royalty-free environment, the relative cost per barrel produced is less than half of that of North American Shale operators.



Source: RYSTAD ENERGY and Wall Street Journal

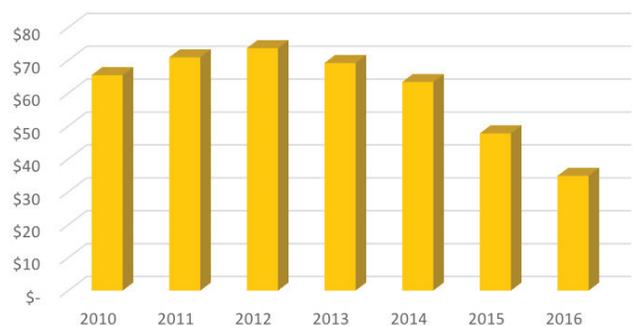
There was uncertainty in the industry and the investment community around whether the North American shale producers could survive the storm. Not all did, of course, resulting in a significant consolidation of both operating companies and suppliers. In fact, more than 220,000 industry workers in the US and Canada lost their jobs between the end of 2014 and February 2017, [Graves and Co.] .

Yet the shale operators survived, and in some ways thrived. By the fourth quarter of 2017, US Crude Oil production had exceeded 10M barrels a day for the first time since 1970 while Canada’s production hit an all-time record of 4.3 Million per day [US EIA].

Efficiency Gains

How did the North American operators pull it off? Through extreme efficiency gains. Operational processes were streamlined, new technologies introduced, and every effort made to reduce the lifting costs. Suppliers also felt the squeeze and had to improve their workflows and productivity to stay in the game. The net result was a material reduction in lifting costs that ensured the emerging shale plays could stay competitive.

US Shale Break Even Price



Source: RYSTAD ENERGY

From 2014 to 2016, break-even prices were virtually halved from more than \$60 per barrel to a little more than \$30.

One operational process that saw significant uptick was electronic invoicing. Operators could streamline the coding and approval processes related to the invoice, reducing clerical staff requirements and freeing up high-value knowledge workers from repetitive tasks. In addition, better management of payment cycles provided opportunity for early-pay discounts and better supplier relations. Adoption of the technology had increased throughout the shale boom. Between Q1 2012 and Q4 2014, the industry’s largest solution provider, Oildex, saw an increase of 18,000 suppliers on their network, 95 additional operators adopt the technology, and an increased throughput of over 800,000 invoices per year – an increase of more than 100 percent.

Opportunity remains for even more process improvement. The introduction of digital field ticketing technology provides the opportunity to complete the electronic circuit between operator and supplier. The last piece of paper in the process that needs to be generated, scanned and reviewed individually will be eliminated.

The Next Evolution – Digital Field Tickets

A digital field ticket, generated on completion of service, can be instantly validated for accuracy. AFE or Cost Center and GL Codes can be instantaneously verified. If there are estimated costs associated with the field estimate, those values can be instantly verified against existing price agreements. And once the goods or services delivery is authorized by the company man, there is no need for the manual approval process of field ticket versus invoice. As indicated in the graphic below, the industry has evolved from completely paper process to partly automated, partly manual. The introduction of the digital field ticket allows the service delivery to invoice resolution process to be virtually instantaneous.

Now the verification and reconciliation of the entire service provision to payment workflows can happen instantaneously, even with complex services associated with upstream oil and gas operations.

This further shortens cycle times and decreases effort for operators. Administrative costs are reduced. Suppliers can be paid virtually on the delivery of services, providing opportunities for early-pay discounts or other collaborative opportunities. All of these factors contribute directly to lower lifting costs. And another demonstration of how innovation is the key to North American shale success.

About the Author

Dave Savelle is a consultant for Denver-based Oildex. He has worked in the oil and gas industry for more than 30 years, focused on development and delivery of upstream technology solutions.

The Evolution of the Oil & Gas Invoicing Process

