

Profiles in Modernization

Featuring: Kang Chen, CIO, Concho Resources, Inc.



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Before you started this modernization journey, how would you rate Concho Resources, Inc. against your peers and other industries?

While the E&P industry's business cycles are short, we are focused on making investments that help to improve our cost efficiencies over the long term. Although I wouldn't consider Concho to be bleeding edge, I do think we are leading edge when it comes to the adoption of oil and gas technology. We have really pushed ahead on new tech investments, even though some of the solutions we looked at 3-4 years ago were not mature enough for our industry yet, such as blockchain or advanced AI technology.

How did you get your journey off the ground and develop your roadmap?

We started by information gathering -- it was critical to educate our executive team and the board to get buy-in and support. We attended various conferences and talked to different industries such as financial services, Silicon Valley tech companies, upstream and downstream organizations, and oil and gas service companies, to better understand how they were building their modernization roadmap. A few of these industries, like financial services and healthcare, had made some good progress in their respective areas, but their use cases were hard to apply to the energy industry. The leading tech companies, such as Amazon, Google and Microsoft gave us much more insight into the value and application of data to drive business outcomes.

More importantly, there was one key theme that surfaced during our research. No matter the industry or maturity of these industries, the data quality side was an ongoing challenge and organizations were spending 95-97% of their

Four key dimensions of a value-driven approach

- ◇ Workforce Enablement
- ◇ Data Analytics
- ◇ Business Process Improvement
- ◇ Field Productivity

time cleaning up the data, and only 3-5% of time analyzing the data. The key was to figure out how to make the data usable and useful and complement the technology that you were implementing.

In the past, Concho didn't look at our data from so many angles. We only leveraged 10-20% of the data we owned or acquired; this research opened our eyes to the inherent value of our own data which was not being effectively applied. Now, with the right technology pieces in place, we've really opened up the data and can see the wealth of information we own.

Our journey has been based on a value-driven approach focused on 4 key dimensions:

1. Workforce Enablement
2. Data Analytics
3. Business Process Improvement
4. Field Productivity

These dimensions helped us focus on how to deliver value for our people, shorten delivery cycles, understand our assets, lower costs and increase efficiency.

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What are the cultural challenges that you had to overcome?

Change, in general, is always difficult, but it's about changing people's mindsets, behaviors and the way they collaborate. Having an effective change management process was our number one priority to succeed. Concho tried various approaches, but ultimately, we needed buy-in from all levels (board, management, departmental and employee) and we developed certain use cases to prove out the success and value for each group. It took a lot of word-of-mouth promotion throughout the organization to get our teams to embrace the concept.

In addition, we developed business champions from various departments, such as geoscience, land, accounting, marketing and engineering, and created partnerships to build the momentum. From a CIOs perspective, it didn't just start and end with me alone. It really required a collaborative spirit and team implementation that was driven by the business. It was also important to have some early wins to show progress along the transformation roadmap.

What types of technology were the keys to your success? E.g. mobility, IOT, analytics

Oftentimes, people get obsessed with new technology and forget the problem that they are trying to solve. It's important to note that your digital journey is not just about shiny new technology. A lot of the technology that we are currently using is a combination of new technology, as well as existing. This has been a balance at Concho, and we saw some early success in using AI and IOT for our production department. We also implemented a few different systems to help us in specific areas, and they each serve their own purpose -- whether it's for machine learning, or data analytics/big data, or streamlining our business processes across different departments. Having a balance of legacy, proven solutions combined with advanced technology is an important part of our strategy.

Where are you along this journey and what's your goal for the future?

Concho is in its third year of this digital journey, and we still have a long way to go. Our focus will be largely driven by our company-wide objectives and the maturity of available technology solutions. Given the dynamic market conditions in oil and gas, we will continue to invest in technology and work with our supply chain and partners to help mature those solutions. I think it's unrealistic to say that we will complete our journey in the next few years. We really anticipate this being a long-term commitment to integrate fully into our business model.

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Some initiatives have resulted in a very quick payback, while others can take up to a year to deliver real value. An important aspect of our work is that we constantly measure progress against KPIs to ensure that we are meeting our goals. The bottom line, however, is that employees have integrated these solutions in their day to day work and it's enhanced how we organize our corporate structure. Most importantly, we better leverage the data to empower our team to make smart decisions that will ultimately drive our success over the long term.

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