DELIVERING DIGITAL DIVIDENDS

HOW TO MAKE TECHNOLOGY INVESTMENTS REALLY PAY OFF IN ENERGY INDUSTRIES.
“COMBINE AND CONQUER” IN ENERGY

Research by Accenture shows: Energy companies can combine digital technologies to drive exceptional efficiencies and enable new business growth to bring up their market cap (see figure 1).

However, only 9 percent of the energy companies we surveyed said their top- and bottom-line growth were enabled by digital.

![Figure 1](image)

**Additional gains in market cap through digital**

Ø percent increase in market cap that energy companies could drive by leveraging specific technologies:

- **43.9% Increase**
- **Autonomous Robots**: 8%
- **Big Data**: 27%
- **Digital Twin**: 8%
- **AR/VR**: 28%
- **AI**: 12%

Source: Accenture Industry X.0 research “Combine and Conquer” (energy respondents).
One in two energy executives admit that they are struggling to effectively combine rapidly evolving technologies. Why?

Our experience of working with companies in the sphere of digital transformation shows that many lack a comprehensive vision for newly adopted technologies and a plan for how business models and organizations will adapt around the tech.

The result? They are not getting the most from their digital investments.

Figure 2

Top 5 challenges to driving efficiencies and growth with digital:

Q: „What are the key reasons that your operations find it challenging to innovate with digital?”

- Inability to effectively combine rapidly evolving digital tech: 54%
- Lack of culture of experimentation: 38%
- Insufficient data security and trust: 32%
- Inability to measure performance of digital tech investments: 31%
- Shortage of digital skills: 31%

Source: Accenture Industry X.0 research “Combine and Conquer” (energy respondents).
Digital reinvention journeys are often focusing on internal strategic alignment between technology and business objectives. Only very little attention is being paid to value triggers such as ecosystems, which can help unlock value from technologies being adopted!

WHERE DO ENERGY COMPANIES STRUGGLE?

While 83 percent of executives believe, that their digital investments are designed to achieve strategic priorities...

Q: “How important are each of the following key digital opportunities for your corporation to achieve its strategic priorities in the coming three years?”

...only 5 percent of executives feel their ecosystem is ready to help drive value with digital

Q: “How important are each of the following key digital opportunities for your corporation to achieve its strategic priorities in the coming three years?”

Source: Accenture Industry X.0 research “Combine and Conquer” (energy respondents).
WHICH VALUE TRIGGERS SHOULD EXECUTIVES BE TRACKING?

Talent Readiness
Talent readiness is the available technology talent pool and its existing size and quality.

Capital adequacy
Capital adequacy is the extent of capital investments made outside company boundaries to mature on-boarded technologies.

Ecosystem maturity
Ecosystem maturity is the technology maturity of the ecosystem, including partners, vendors, suppliers, academia and start-ups.

Adoption intensity
Adoption intensity is evidence of successful technology integration within the same or in related industries.

Value potential
Value potential is estimates of the plausible returns on digital technology investments.
Augmented- and Virtual Reality

The buyer-value perception and incremental top line gain of AR/VR technologies is high within the oil industry due to its potential in training new workforce and enhancing workforce safety.

However the industry ecosystem is yet to mature and there is limited investment and spending on the technology.

The value potential is yet to be clearly established, in part because the use cases are not highly visible, and collaboration opportunities are limited.

Source: Accenture Industry X.0 research “Digital Dividends” (energy respondents)
Big Data Analytics

As a data heavy industry, the oil sector shows a mature ecosystem and talent readiness for Big Data analytics technology.

Additionally, adoption of Big Data technology is high driven by large number of commercial deployments and use cases.

Despite this, the value potential (particularly around especially cost savings) is till yet to be fully realized.
**KEY TECHNOLOGIES FOR ENERGY, DIAGNOSED – AI**

**Artificial Intelligence**

The oil industry is showing strong adoption and deployment of AI technologies but surprisingly industry demand for AI talent and skills remains low.

This may signify that the industry is leveraging its ecosystem and collaborating with external technology partners in develop and implement AI technologies.

In addition to high levels of attention in the oil sector, AI is also attractive to Venture Capitalist, which is betting on its future potential and value.

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Source: Accenture Industry X.0 research “Digital Dividends” (energy respondents)
KEY TECHNOLOGIES FOR ENERGY, DIAGNOSED – BLOCKCHAIN

Blockchain

There are many uses for Blockchain in the oil sector. It can improve supply chain efficiency; secure and simplify energy trading, billing and payments; improve capital project management; and increase transparency in regulatory filing within the energy industry.

Blockchain technology is still at the nascent stage with talent readiness, capital adequacy, adoption intensity and value potential all low as compared to other industries.

The oil industry has just started setting up its ecosystem with various industry participants and financial institutions creating consortiums to run pilot projects.

Source: Accenture Industry X.0 research “Digital Dividends” (energy respondents)
Figure 8

Source: Accenture Industry X.0 research "Digital Dividends" (energy respondents)
A global Oil and Gas company required an analytics-based model to predict and address pipeline issues, and worked with Accenture to develop a proof of concept for managing corrosion under insulation (CUI). The new model is based on a detailed analysis of data related to pipeline operations and corrosion-contributing variables.

By infusing these advanced analytics with artificial intelligence (AI) and machine learning, the resulting model predicts corrosion rates, identifies high-risk inspection locations, and detects real-time corrosion much more quickly and accurately than a manual inspection process.

The client now has the potential to pinpoint pipeline segments that are in the greatest need of inspections, better utilize its resources, and save significantly on inspection costs.
Striving to increase your Digital Dividend?

Get in touch!

Whether you are willing to explore certain emerging technologies or are already preparing to implement a specific one – we are ready to help you improve your outcomes by putting the “Digital Dividends” model to work for your specific case. If you’re interested in learning more, please reach out to Raghav.Narsalay@accenture.com or Praveen.Tanguturi@accenture.com at Accenture Research.

References:

David Abood, Aidan Quilligan and Raghav Narsalay (2017), Industry X.0: Combine and Conquer, downloadable from here.

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