



# DIGITAL FINANCE ECOSYSTEMS FOR JOINT VENTURES AND JOINT OPERATIONS

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The impact of digital technology on the finance function has proven to be transformative. As robotics, artificial intelligence and blockchain technologies continue to emerge and advance, increasing permeation is inescapable. The role of the finance organization continues to evolve and so must the focus of finance and accounting professionals. Emphasis is shifting from an age-old focus on managing historical figures in 'keeping the books' to a focus on the future – becoming a more strategic partner by leveraging insights made available through digital technology to advise, inform and steer the enterprise.

Similarly, the influence of the finance organization in the modern oil and gas enterprise has risen significantly in recent years as industry pressures demand increased focus on cost optimization, development of insight-driven strategies, effective cash management and maximum return on strategic investments. The finance function is at the core of enterprise transformation. In many organizations today, finance drives enterprise wide change through employing new operating models, reengineering business processes and embracing digital technologies as accelerants to scale growth and open new and diversified revenue streams.

## The Digital Finance Organization

Next-generation enterprise systems are laying the foundation for a digital finance revolution in the oil and gas industry, streamlining finance and accounting processes and data within the modern enterprise. On top of these foundations, leading finance organizations are employing robotics, analytics and artificial intelligence to further optimize processes and increase rapid delivery of insights.

Today, successful CFOs have a talent for implementing transformational initiatives that rapidly deliver value to the enterprise and its shareholders—A recent Accenture study on finance organizations' adoption of digital technologies shows that 82 percent of CFOs are realizing measurable ROI from investments in digital finance initiatives. Accordingly, the intersection of finance and digital amid industry commodity price volatility, have led CFOs to embrace technology as a strategic enabler and value lever.

Enterprises leveraging digital technology have created enormous impact that is generally siloed and specific to the organization. However, processes that involve multiple business partners remain largely unaffected. Emerging at the center of this new wave of innovation is blockchain technology which is growing to form the economic nervous system for the new enterprise of tomorrow, paving the way for collaborative ecosystems between business partners.

## What is Blockchain?

As emerging technologies continue to transform business processes and disrupt industries, blockchain has caught the attention of finance leaders in the oil and gas industry across the globe. Blockchain can best be thought of as a conglomeration of several different technologies including distributed ledger platforms, peer-to-peer networking, cryptography, consensus, mathematics, and smart contracts. More simply, Blockchain is a distributed database technology allowing for the secure transmission of information between external parties without reliance on a central authority.

## Digital Finance Ecosystems for Joint Ventures and Joint Operations

Oil and gas organizations today experience many inefficient and duplicative processes required to account for capital projects, joint ventures and joint operations across business partners. Many of these inefficiencies stem from the fact that data must be exchanged between external parties and systems while being continually updated, validated and reconciled. Blockchain addresses these realities by enabling a shared source of verified data associated with financial transactions that are agreed to by the appropriate parties. The ability to automate processing and create tamper-proof audit trails are a few of the features that promise to eliminate friction among the numerous external business partners and vendors involved in the lifecycle of a well.

Today, all parties involved in a joint arrangement must independently account for and verify all transactions making reconciliation processes cumbersome and time consuming. Blockchain ecosystems built conceptually around capital intensive assets, such as a well site, would enable real-time visibility and allocation of expenditures to all parties in a secure environment.

Blockchain introduces the shared data construct where you have the capability to share pieces of data from a transaction with only the parties that you want to. With all parties now relying on the same source of truth the generation of joint interest billing statements can now be automated, perpetually recalculated and globally available to business partners on the network. Imagine entering joint venture purchase orders into such a network and having relevant pieces of data instantly visible to only intended parties while hiding sensitive information, such as pricing, from non-intended parties. Tomorrow, these parties will be able to leverage shared blockchain networks to enforce contract rules speeding up processes and reducing reconciliation efforts without the need of independent verification and trusted intermediaries.

Similarly, cash calls and cutbacks today require the same duplicative accounting processes but also trigger required funds transfers for settlement. Tomorrow, connecting these networks with bank-facilitated settlement networks make it possible to automate the end-to-end execution of cash call and cut back settlements.

By integrating blockchain with internet-of-things (IoT) sensor technology to accurately track and timestamp production volumes and market prices, participants will have the ability to reduce dependence on estimation models saving time and costs associated with reconciliation, disputes and auditing activities. Over time, these networks will grow to enable portfolio-level management of capital projects and joint operations by enforcing boundaries between specific projects and business partners.



## How to Get Started

Unlike many industries and business process areas – such as procure-to-pay – joint arrangements in oil and gas are typically created between known parties. This presents a specific advantage in that joint arrangement consortia will be easier to conceive and pilot between business partners – start with a single well, a private and permissioned network, a couple of partners and grow from there.

Finance leaders should level-set, understanding blockchain technology and its potential to disrupt industries and transform business processes. Brainstorming initial hypotheses around potential use cases and an approach to fostering innovation within the finance organization will ensure leadership alignment. Rapid design thinking should be encouraged to identify and prioritize candidate use cases, explore business value potential and the technical feasibility of proof-of concept and pilot applications.

Once an understanding of blockchain technology is established, the focus should turn sharply towards collaborating with industry peers. Oil and gas companies should identify key partners to collaborate with to develop and test pilots that enable new business processes and develop a value proposition across the ecosystem. Doing so from the initial stages will allow finance organizations to harness the powerful network effect that blockchain creates and ensure a sustainable model that will encourage industry-wide adoption.

Investment in these endeavors should be thoughtful but deliberate, understanding that the technology continues to evolve rapidly and that there is an urgency to contribute to the evolution. The first movers in enterprise adoption get a shot at defining the rules for how these shared networks will be run tomorrow. In addition to a natural first-mover advantage in terms of talent and understanding, oil and gas companies that pioneer in this space have the potential to create disruptive competitive advantages.



## ABOUT THE AUTHORS

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Felipe Olmedo is a manager with Accenture Consulting. He joined Accenture in October 2014 and has since been engaged in various finance transformation projects for Accenture's oil and gas clients around the globe. Felipe has a strong focus on

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Felipe earned a bachelor's degree in business administration from the University of Houston in May 2014. He lives in Houston with his family and enjoys traveling, reading and having the privilege of being a father.

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