

THE LEGACY SOFTWARE STRANGLEHOLD: WHY E&PS MUST INNOVATE



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In today's complex market - where success is a function of commodity price and operating costs, digital innovation should be the guiding light to profitability and sustainability. Yet lack of innovation in the energy back office, and legacy technology are holding upstream companies back, just as much, as an entrenched mindset and culture of doing things the way they have always been done. Oil & gas organizations large and small are afraid of making the change that will ultimately allow them to operate more efficiently, build business resilience, and unleash the potential of their workforce, by eliminating the data and "cultural silos". Instead, many E&Ps are choosing to maintain the status quo and kick the can down the road exposing them to the risk of market fluctuations, and of being outperformed by their peers who have modernized their accounting, land management, production operations, and tax and regulatory systems.

Resisting breaking free of legacy systems is like handcuffing the organization to the past. It only compounds the crippling effects of legacy technology on your organization. Organizations must have a digital transformation strategy to survive. But what is the right time to make the switch and begin the digital transformation journey? Read on to learn and identify the critical warning signs of legacy software, and how your organization can overcome the resistance to change.

The following sections provide a complete roadmap - including action plan checklists - to help you navigate and close the widening capability chasm caused by legacy systems that have stranded your organization with under-powered technology while enabling your competitors to outperform and shrink costs. For companies who successfully execute and sustain digital transformation, the payoff is big, including increased business performance, agility, and millions in annual cost savings.

THE 7 WARNING SIGNS OF LEGACY SOFTWARE AND THE COST OF STANDING STILL

The oil & gas industry continues to come to terms with an unprecedented super cycle characterized by historic commodity fluctuations, capital restructuring, and consolidation. How your team chooses to move forward now, will determine the long-term viability of your organization.

As the industry resets, ask your team the following questions:

- 1) What processes and technology no longer make sense?
- 2) What processes and technology should we keep in place?
- 3) What processes and technology should our organization now embrace?

The answers to these questions will clearly signal whether or not your team wants to seize the moment and innovate. But there's a trap here in assuming that the oil & gas business will continue to function as it



always has as supply and demand rebalance. The world has changed and the old models of doing business are no longer adequate. Going forward, the energy industry is unlikely to resemble patterns of the past and old ways of resetting will no longer suffice.

THE EFFECTS OF LEGACY SOFTWARE - INNOVATE OR PERISH

Leaders must recognize that digital technology is not just about supporting the current business model but also shaping the business model for future scenarios. While many leaders in the energy sector have already taken decisive steps to reduce costs, this is a short-term tactic. It must be accompanied by strategic planning with digital technologies to reinvent the business for the future.

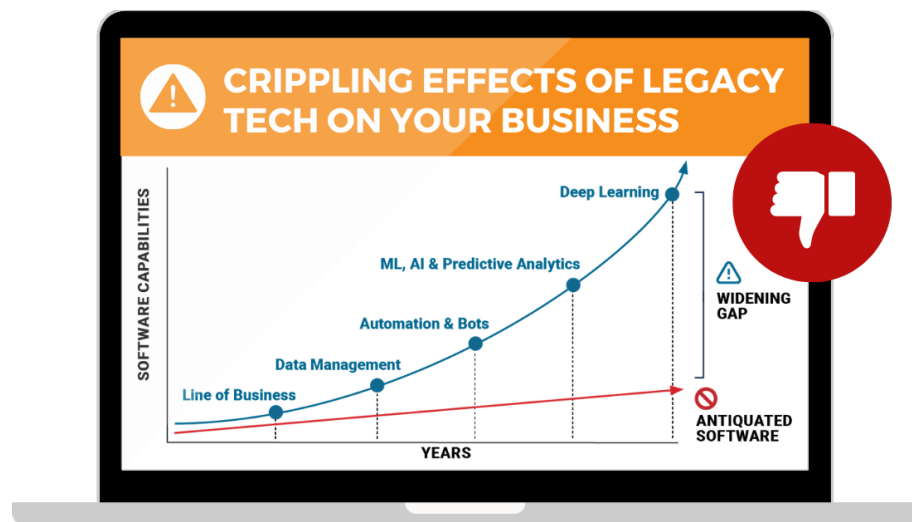
“COMPANIES FAIL DURING DISCONTINUITIES AND DISRUPTIONS BECAUSE THEY OVERINVEST IN WHAT THEY HAVE BEEN GOOD AT IN THE PAST AND UNDERINVEST IN WHAT THEY NEED TO BE GOOD AT TOMORROW.”

- Source; AWS, *The New Energy Playbook Innovation & Transformation in The Back-Office*

The oil & gas industry has entered the digital age where continuous innovation is the only winning strategy, and those who rely on 20- to 30-year-old ERP software will not be able to survive rapidly changing market environments. There is a large gap between what many operators can achieve with their current legacy ERP systems, and what is now possible through the cloud – automation, AI, analytics, and a technology capability chasm that is only widening with time. To cross that chasm requires a leap forward - not just small, incremental steps. Leaders need to pay close attention to the “sacred cows” - ideas or ways of doing things that have been protected in the past - that no longer make sense.

These must be replaced with a new paradigm that prioritizes innovation, data value, collaboration, and cost efficiency. Upstream companies must not only upgrade their software, but the way they think about data and integrate corporate knowledge across departments, breaking down data silos, and siloed thinking. Attaining the prize of a modern technology stack and benefits of a highly collaborative, data-driven, low-cost operation takes more than digital transformation, it takes business transformation. However, even when the C Suite is presented with a playbook that will save millions while accelerating business performance, the response is all too often to indefinitely defer digital transformation exactly because it takes decisive action, cross-organizational buy in, and a long-term commitment to making sure the organization is well-equipped to cope and even thrive in a down-turn.

RESISTING CHANGE ONLY COMPOUNDS THE CRIPPLING EFFECTS OF LEGACY TECHNOLOGY ON YOUR ORGANIZATION



The ‘sacred cow’ of irreplaceable legacy ERP software has been sustained internally by apathy, and externally by legacy software vendors. The business driver for purveyors of outdated technology is the inverse of innovation. The goal is to ‘milk the cow’ for as long as possible even if that means providing temporary licensing discounts at the first sign their clients want to modernize and move on.

Year after year, many oil & gas teams choose to kick the digital transformation can down the road, and renew their legacy software licenses, trading short-term licensing cuts for long term opportunity and building business resilience.

While choice of technology can compartmentalize and limit the flow of business-critical information, there are also entrenched cultural data silos in some organizations. Because data is not promoted as an internal asset for the entire organization to consume, there is pervasive resistance not only to moving away from legacy software, but to also establishing robust data management

practices that can increase the free flow of validated, decision-ready data. Creating even more resistance is an oil & gas workforce nearing retirement who has been hit, time and again, with industry busts. At this point in their careers, many energy professionals see upgrading as injecting unwanted uncertainty or requiring them to do even more when their bandwidth is already constrained.

Start by assessing where you are in the spectrum of technology adoption. If any of these technology warning signs are true about your oil & gas business, you are ready for business transformation:



1. YOUR SUPPORT COSTS FLUCTUATE. SERVICES ARE MORE COSTLY & HARDER TO FIND

You have to leverage a managed services provider due to the lack of skillsets in-house, & in the market.



2. YOU GET DINGED ON AN EXTERNAL AUDIT FOR SOFTWARE-RELATED ITEMS



3. YOUR ENGINEERS, ACCOUNTANTS & LAND ADMINS CONSTANTLY ASK FOR MORE DATA

As a result, your team is building databases outside core systems.



4. THE TECHNOLOGY LOOKS DATED & IS NOT USER-FRIENDLY

The system is difficult to use, & your team battles issues such as accounting processes taking several hours to complete.



5. YOU HAVE A HIGHLY SKILLED WORKFORCE, BUT THEY ARE MAXED OUT

They simply cannot take on more work. This is even harder when acquiring or divesting an asset.



6. YOUR TEAMS ARE ENTERING WELLS, VENDORS & COST CENTERS IN 3 OR MORE APPLICATIONS

This leads to mismatched data, inability to pull information together across the enterprise, & work effort wasted on duplicated processes.



7. YOUR SOFTWARE VENDOR PROVIDES VERY LITTLE SUPPORT

Despite poor support, you incur increasing integration development costs for core functions. Your team still has to spend time in spreadsheets combining data together.

THE REAL COST OF LEGACY SOFTWARE

There are very tangible costs associated with continuing to run oil & gas operations on legacy software. Adding to the total cost of owning accounting, land, production operations, and the other software systems your organization relies on, it's the decisions made on bad, incomplete, or multiple versions of data that accrue staggering hidden and opportunity costs. For mid-sized E&Ps (operating 1,500 to 2,500 wells) the financial impact includes \$1M in unnecessary legacy software costs, more than 600 hours of duplicated effort, and the G&A costs of 10 full time employees to manage the moving parts and provide workarounds to capability gaps.

THE REAL COST OF LEGACY SOFTWARE FOR MID-SIZED E&PS

\$1 MILLION

+600 HOURS

10 NEW HIRES

ELIMINATING DATA SILOS AND BRINGING E&P WORKFLOWS TOGETHER IN THE CLOUD

Cutting checks to interest owners is a common challenge for every E&P. Right now, how well does your current land management solution handle a drilling-delay rental clause or shut-in? Put a different way, how easy is it for your team to process these types of special payments? Chances are, getting those obligations paid can be a disruptive and time-consuming effort. The #1 reason is poor or no integration between leases and revenue division of interest – providing no immediate way to know who on the DOI (Division Order Interest) is associated with the lease-specific payment.

The lack of integration between related workflows – lease administration, division order, and revenue accounting – is just one small example of the fragmented nature of today’s oil & gas information landscape. Disconnected applications are a pervasive problem across the energy enterprise, from land and accounting to production and regulatory. The result are data silos that stand in the way of the free flow of business-critical data, and strategic and tactical decision making. For many organizations, the information landscape evolved this way organically over decades fractured by the belief that niche, best-of-breed solutions are the answer to each department’s challenges, thereby trading the benefits of a unified, comprehensive approach for a highly specialized solution. But the results have been messy and expensive, requiring E&P’s to build and maintain brittle integrations at

best, or resort to manual data shuffling and duplicated effort at worst.

Whether public cloud (data and apps are stored securely outside your firewall) or private cloud (everything is inside the firewall), cloud computing provides the perfect foundation on which to build solutions for the energy back office. Unlike the traditional on-premise approach to maintaining servers and software, cloud solutions can be built



LAND MANAGEMENT



ACCOUNTING



PRODUCTION OPERATIONS



TAX & COMPLIANCE

W ENERGY SOFTWARE'S CLOUD PLATFORM

around a common and consistent database, which in turn eliminates data silos. Combined with a unified application architecture, land management, accounting, and production workflows become inherently integrated while creating new opportunities to automate, streamline, and accelerate business performance.

The advantage of a unified upstream ERP for the land administration example above include an instantaneous and crystal-clear view of chain-of-title and the assurance that payments are being issued on time, to the correct and current parties on the lease. A unified application and data architecture can also bring real-time SCADA and measurement data into production accounting, informing operational decision-making with up-to-date field data, volumes, and well status. What's more, with production data feeding your accounting systems, your team can avoid problems with revenue disbursement, including prior period adjustments, reversals, and rebooks.

ACTION PLAN: SELECT THE RIGHT SOFTWARE PLATFORM

Choosing the right oil & gas software for your team can be complicated, time-consuming, and even confusing as some software vendors offer multiple options of the same type of software, such as land management solutions, a result of acquiring smaller software companies (just to grow revenue and satisfy financial backers). However, by ensuring your vendor meets the following 5 criteria, your team will spend less time, money, and frustration evaluating oil & gas software options and more time on putting the technology to work.

- Unified application architecture provides a single database and consistent user interface for core upstream functions, including accounting, land management, and production operations.
- Out-of-the-box dashboards and self-service reporting eliminate costs and increase productivity vs. one-off custom reports.
- Explicit workflows, approval routing, and audit trails automate processes, including AP, purchase order, and revenue disbursement.

- Master data management capabilities for creating a single version of the truth, and enforcing data standards across functions, e.g., well status.
- Cloud-based applications and a true SaaS experience ensure upstream workflows are running on the latest technologies.

PROMOTING THE VALUE OF DATA AND BUILDING A DATA-DRIVEN CULTURE

How do you put a price tag on data? One way is to calculate the cost of acquiring it. Take well logs as an example. Oil & gas companies can spend millions of dollars on wireline work to log their wells. This data is very valuable but like so many oil & gas data types, it's stuffed in a physical or digital filing cabinet, accessible to a few and limiting its value to the entire organization. That's just one of the hundreds of data types drilling, land, production, and accounting teams work with on a daily basis. And the worth of these data assets far exceeds the mere cost of acquiring or creating them, underscoring the need for robust data management and methods to maximize data consumption across teams.

Creating an open and accessible data culture starts with shifting the mindsets of all departments to treat



data as an asset whose value extends across the entire organization. Legacy oil & gas software and a fractured, poorly connected application ecosystem can also hold your team back. A unified ERP platform or software suite with robust integration across functions provides a foundation for creating a single and centralized version of the truth (master data), which in turn enables a free flow of data across teams. People and processes are required to ensure data integrity.

Master data management and continuously cleansing multi-disciplinary datasets depend on sustainable data governance with the overarching strategies and policies defined at the enterprise level, and execution at the departmental level. Governance requires your entire team to pull together in one direction. Creating and enforcing asset naming standards, for example, can falter if staff do not perceive the value of normalized data and continue to use the well names, they are familiar with.

Data volumes are rapidly growing within most oil & gas companies, both structured data (e.g., production volumes and financials) and unstructured data (e.g., PDFs and scanned invoices). Does your team have the right strategies in place to manage this flood and ensure decision-ready data is always at hand? Adding to the data management complexity are increasing regulations and customer expectations for on-demand reporting, while technology and market changes outpace the ability of many E&P's to respond.



ACTION PLAN: BUILD SUSTAINABLE DATA MANAGEMENT GOVERNANCE

Rather than taking a reactive approach, oil & gas companies who embrace digital transformation have the opportunity to inform strategic decisions with the best information, leading to a more agile workforce, lower G&A costs, and a unique competitive advantage.

The following checklist provides proactive strategies to put your organization on the right data management track.

- Create the right blend of people, processes, and technology to enable the organization to leverage data as an enterprise asset.
- Centralize enterprise strategy with decentralized execution, including the development of standards, policies, and procedures.
- Focus on specific data sets at the business unit level and their relationship with enterprise data.
- Enable business stakeholders to take ownership of data with IT as a partner, to maintain systems and data management tools.
- Evolve your processes and tools to advance data consumption as the business takes increased ownership for data integrity and quality.

SUCCESSFULLY STARTING AND SUSTAINING DIGITAL TRANSFORMATION

The previous sections outlined a proven roadmap with everything your team needs to start your digital transformation journey - specs for a unified cloud-based application that encompasses land management, accounting, production operations, tax & regulatory, plus strategies for rapidly delivering quality datasets to

decision-makers. To succeed though, your team must own the digital transformation strategy with executive sponsorship in the journey that does not falter.

The first organizational hurdle your team must overcome is the entrenched mindset at many E&P's that the timing for a digital transformation initiative is never good because of the lack of enthusiasm in the back office and a workforce that prefers to continuously kick the software licensing can down the road even if it means doing things the old, manual, and painful way. The last thing that they want is the uncertainty, disruption, and additional workload that many believe will result from digital transformation and process improvement. For oil & gas teams that can overcome this resistance to change, the final organizational hurdle is managing that change and understanding that digital oilfield transformation is not a project, it is a continuous process that must be built into your organization's operational DNA.

The digital transformation journey starts with an enterprise vision to ensure trustworthy and higher quality data to make quicker and more informed decisions.



EXECUTION IS EVERYTHING

To grow you need to leverage technology and automation to scale the organization and create turnkey future acquisitions. Your team must embrace data as a strategic asset and be able to access, use, understand and trust data across every business function from the C-suite to the front lines. Ensure accountability/ownership for data assets and eliminate time spent duplicating data entry so that time is spent on more valuable tasks. Failing to effectively manage your team's knowledge is just as bad as failing to manage capital allocation. Oil & gas companies have become disciplined with the latter and as an industry, mindsets must be shifted to underscore the importance of intellectual capital and its careful management. This includes continuously refreshing digital skillsets and ensuring that every member of your team knows how to get the most out of their software and data.

ACTION PLAN: CENTER DIGITAL TRANSFORMATION AROUND CHANGE MANAGEMENT

Organizational change management is the top success factor for delivering the business results the energy C suite expects from digital transformation, i.e., the ability to grow and outperform peers with lower costs and a lean team. However, change management is almost always the first budget to be slashed when digital transformation initiatives fail to show early results. Stay the course. Center your digital oilfield transformation around change management along with the other strategies listed below.

- Assemble a dedicated team of people to manage the roadmap and organizational change.
- Ensure that your change management team and super users have dedicated time to the transformation.
- Provide quick wins along the way to show incremental and steady progress against bigger efforts.
- Establish KPIs at the enterprise and depart-

ment level and measure progress to link value to specific activities.

- Keep an eye on the 'prize' through continuous innovation, data governance, and executive sponsorship.

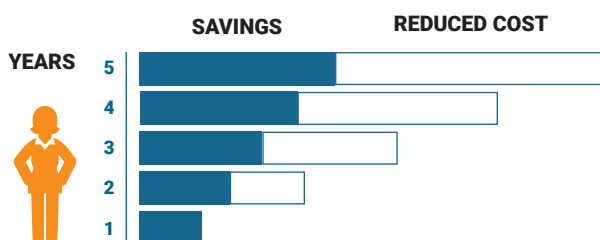
Recall the 7 warnings signs listed in the beginning that signal whether your organization is ready for digital transformation. These included hidden software costs, poor support from your vendors, and waiting on data that is plagued with inconsistency, inaccuracy, and multiple versions of the truth. Those are the warning signs, but there are also abrupt transitions that result in a "wake up call" and sudden urgency to make a change. Your team might find itself in the midst of a major acquisition only to discover that your current oil & gas software, data management, and processes are limiting growth. Or perhaps you have an existing, somewhat outdated ERP and the vendor is forcing you to upgrade to a different version that entails massive capital outlay and long project timelines. There are many ways your team can suddenly have an awakening that change is needed.

Overcome the status quo mindset, apathy, and implementation anxiety that has made your legacy ERP a sacred cow. Stop over-investing in the processes and technology that have worked for your team in the past and begin investing in the future.

“PAY ATTENTION TO THE ‘SACRED COWS.’ THESE ARE IDEAS OR WAYS OF DOING THINGS THAT HAVE BEEN PROTECTED IN THE PAST AND THAT NO LONGER MAKE SENSE.”

- Source; AWS, *The New Energy Playbook – Innovation & Transformation in The Back-Office*

Leaders have an unprecedented opportunity to rally employees around continuous innovation, galvanizing the entire organization with the digital strategies that unlock workforce and business potential. Be proactive and confident in your team’s ability to successfully move forward with a modern technology stack and data management best practices. A down market is a good opportunity to invest your time and resources in making a transition, ensuring that a solid digital foundation is in place, and positioning your organization for growth on the upswing.



OVER \$2.7 MILLION
cost avoidance & reduction over 5 year period

FUTURE PROOF YOUR OIL & GAS SOFTWARE AND DATA MANAGEMENT

Increasingly, upstream companies are turning to W Energy to modernize their energy back office with the oil & gas industry’s only fully unified ERP built on the cloud spanning financials (AP, AR, financial statements), land administration, division order, revenue accounting, production accounting, drilling/well work, field data capture, and production operations. Our SaaS solutions also span the spectrum of State and ONNR reporting. An all-in-ONE, fully integrated upstream ERP, that shares a common and consistent user experience that centralizes multidisciplinary information, enabling your team to manage master data and enforce standards.

When it comes to enterprise level digital transformation, W Energy checks all the boxes with clients seeing an immediate return on their investment

typically within 5 years. Plus, all-inclusive upgrades every year ensure that the W Energy platform is continuously updated with new capabilities and evolves as accounting, industry, and regulatory standards change, future proofing your business software and giving your team the confidence that accounting, land, and production operations are always running on the latest technology.

In addition, our ecosystem of system integrators and change management experts provide your oil & gas

team with a complete solution for modernizing your ERP technology stack, along with the expertise to successfully start and sustain digital transformation. With rapid implementation timelines and W Energy's reputation for partnering with clients to ensure long-term business success, your team can close the technology capability chasm, shrink technology and G&A costs, and reach higher levels of performance with a lean team.



ABOUT W ENERGY

Headquartered in Tulsa, Oklahoma, W Energy offers the oil & gas industry's only unified ERP solution built for the cloud that is relied on by more than 130 upstream and midstream companies to accelerate business performance, improve operational efficiency, and drive costs down. W Energy combines precision-built software in one extendable cloud-based workspace with an intimate understanding of the oil & gas business to deliver solutions that offer flexibility, affordability, and continuous upgrades. Unlike other ERP software that loosely ties together a mix of legacy solutions and fragmented technologies, W Energy designed a unified upstream and midstream ERP platform to seamlessly track oil, gas, and NGL from the wellhead through transportation and marketing, eliminating data silos as well as the burden and costs of maintaining multiple systems. With W Energy, oil & gas companies stay lean and agile with the tools they need to adapt to market changes and meet evolving customer needs head on, all while gaining the confidence that their business is running on the latest technology. For more information, please visit

WENERGYSOFTWARE.COM