Landmen Work To Cut Knowledge Gap

A four-step methodology focused on organization, process, policy and technology provides tangible results for organizations seeking to mitigate the impacts from experience and knowledge gaps in land functions.

By Wade Brawley,
Julie Shochat and
Samantha Kast

OKLAHOMA CITY–In the midst of the rapidly evolving domestic oil and gas industry, the land business has experienced a shift in strategy, with focus changing from acquisition to asset management.

This shift increases requirements for deep expertise in land operations and asset management, yet throughout North America, looming retirements across industries are causing a shortage of experienced labor in the workforce. Although this widespread "knowledge gap" is not unique to the oil and gas sector, it brings a unique set of challenges to landmen across organizations, processes, and technology. Talent management is more important than ever, with the influx of new hires and exits of experienced managers.

In fact, according to a study by the Center for Energy Workforce Development, in the next decade, 62 percent of the energy industry will have the potential to retire or leave their jobs. Additionally, for positions that are considered critical by the industry, 36 percent may need to be replaced because of potential retirement or attrition this year, with an additional 16 percent by 2020 (Figure 1).

Effective utilization of technology such as land management and reporting systems is becoming increasingly important to ensure the timely and accurate data needed to facilitate informed business decisions.

Throughout the industry, companies are working proactively to address knowledge gaps, particularly within technical and operational areas. Land is a key function within upstream operations and is experiencing significant challenges because of these gaps.

As North American shale exploration and extraction has grown, the land function has become an integral part of business development, asset acquisition, and asset management. Now more than ever, it is essential for onshore-focused organizations to ensure knowledge transfer from retiring and experienced employees to early career talent. Table 1 outlines challenges, drivers and impacts trending in land operations, particularly regarding operational inefficiencies from nonstandardized and inconsistent processes.

A thorough examination of land operations, including organization, process, policy and technology, followed by efforts to address gaps and mitigate these impacts, will empower organizations to maintain a sustainable land business that is resilient to the current and future challenges brought on by the evolving industry and

TABLE 1

Land Operation Trends		
Challenges	**Drivers**	**Impacts**
Inconsistencies in business processes Inefficiencies in quickly mobilizing assets to the market Knowledge and experience gaps in the workforce Misalignment of roles and responsibilities	Lack of documentation and guidelines Demographic shift in the workforce (high ratio of early career staff to retiring experts) Leadership changeovers Lack of structured training Need for specialized skills	Steep learning curves and longer ramp-up time Misaligned executive goals Inefficient communications Redundancy of efforts because of overlapping responsibilities Slower time to market Exposure to fees and penalties

talent pool. After starting efforts to evaluate and improve operations, land functions can anticipate:

• Gaining better visibility into managing lease expiration schedules, contractual obligations, and rig utilization obstacles;

• Establishing a common framework that will improve decision-making efficiency, reduce redundancies, and enable resources to focus on highest-priority initiatives;

• Institutionalizing processes that will mitigate the risks of losing capabilities with a retiring workforce and lessen the learning curve for new employees; and

• Improving process understanding and visibility that will promote a culture of greater participation and empowerment.

Addressing Impacts

A thorough effort to improve and optimize operations through organization, process, policy, and technology is an effective way to address and mitigate the impacts from the knowledge and experience gaps in land functions. The four-step methodology provides valuable and

tangible results for organizations.

Organizations should begin by documenting all processes and policies through staff interviews to capture their current state. During these interviews, capture risks that have potential project impact to ensure the effort stays on time and in scope. The result is a thoroughly vetted set of process and subprocess flowcharts documenting land operations and related function responsibilities, touch points, and key tools.

The next step is to identify "to-be" processes, policies and procedures, and to capture the ideal future state of the operation (Figure 2). Key items that should be completed in this effort are:

• Identifying and documenting best practices, project risks, and improvement opportunity observations;

• Analyzing issues associated with current processes, organizational structure and technologies;

• Documenting capabilities of personnel and outlining future capabilities by function;

• Gathering and summarizing all tools and training available for employees;

• Establishing a centralized portal for finalized training, policies and procedures accessible to all land teams amid today's multidisciplinary team structure; and

• Setting expectations for time-to-market and establishing data standards for reporting.

An analysis of the gap between the current state and proposed future state is conducted next. Companies should evaluate gaps within every process, policy, and procedure–including organizational structure and technological infrastruc-

FIGURE 1

Percent Distribution of Civilian Labor Force by Age
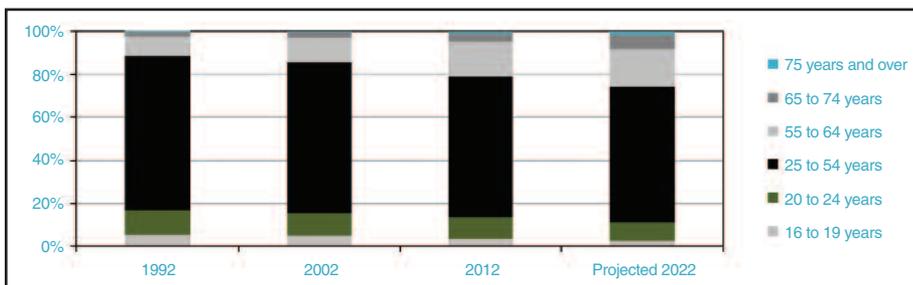
Source: US Bureau of Labor Statistics

ture–estimate ramp-up times with associated costs between current and future states, and prioritize and communicate options and critical next steps before implementation. This prioritization should consider a relative cost/benefit analysis using quantitative metrics where possible. If quantitative analysis is not possible, organizations could evaluate the relative impact of addressing each improvement area in terms of effort (e.g., resources, timeline, budget) and benefit (e.g., operational efficiency, risk reduction, reduced learning curve).

Before implementation begins, it is critical to gain cross-functional leadership alignment on the effort's strategic direction. Implementation includes developing all identified deliverables, along with creating a training and change management plan for the organization.

Following an effort such as this, organizations could expect to have a thorough set of useful tools, including:

• Detailed process flowcharts documenting key operational activities;

• Formal guidelines for key operational processes;

• Comprehensive document inventory;

• Inventory of current information technology tools and systems;

• Repository of all observed improvement opportunities with recommended next steps;

• Documentation of organizational structure, roles, and responsibilities; and

• Internal Web-based interactive portals to store all deliverables in a user-friendly interface.

These tools not only will help early career and experienced employees transition into organizations, but they will institutionalize the way the organizations conduct business, enabling an efficient, streamlined, and competitive operation.

Technology Evaluations

Evaluating an organization's technology is key to both supporting land's improving processes and arming management with visibility into operations (Figure 3).

Physically handling and passing documents from one person to another for review and approval is an outdated process that usually results in duplicated efforts, bottlenecks, and misplaced documents. For many years, this approach not only

was the standard for managers to check work products for completeness and accuracy, but also the tool used to track employee productivity–important objectives that managers achieved through this imperfect methodology.

To improve the document workflow, managers began utilizing spreadsheets; however, this usually resulted in additional efforts with little improvement. Managers were not the only employees tracking every document for review. Landmen, analysts, payments clerks and file room personnel also would create their own tracking spreadsheets individually or as a department. While this process successfully tracks documents in a workflow, it presents several inefficiencies:

• Too much time is spent managing multiple, redundant spreadsheets.

• Document processing is sequential, rather than simultaneous, resulting in a slower process.

• Documents flow in bulk, so bottlenecks at one role result in an avalanche of documents for the next role.

These process inefficiencies can be avoided. Technology not only enables, but demands a different style of management in the land back office.

Another approach to data standards and technology exists. It consists of three key components: consistent communication of document initiation within an organization, a shared workflow that everyone can use to mark the completion of tasks and the location of documents, and systems integration with lease records. Benefits of an approach with these three key components include:

• Consolidated performance monitoring tools for managers;

• Document tracking for everyone in the supply chain, to easily identify bottlenecks;

• Transparency to keep everyone accountable–even the managers;

• Simultaneous alerts to streamline tasks;

• Compliance with procedures;

• Reduced learning curves; and

• More time for value-added activities
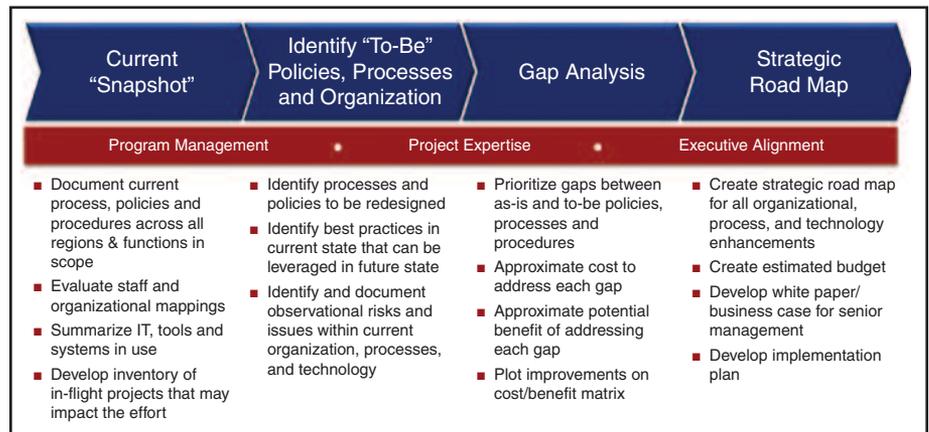
FIGURE 2

Identifying Key Processes

Current "Snapshot"	Identify "To-Be" Policies, Processes and Organization	Gap Analysis	Strategic Road Map
Program Management		Project Expertise	Executive Alignment
■ Document current process, policies and procedures across all regions & functions in scope ■ Evaluate staff and organizational mappings ■ Summarize IT, tools and systems in use ■ Develop inventory of in-flight projects that may impact the effort	■ Identify processes and policies to be redesigned ■ Identify best practices in current state that can be leveraged in future state ■ Identify and document observational risks and issues within current organization, processes, and technology	■ Prioritize gaps between as-is and to-be policies, processes and procedures ■ Approximate cost to address each gap ■ Approximate potential benefit of addressing each gap ■ Plot improvements on cost/benefit matrix	■ Create strategic road map for all organizational, process, and technology enhancements ■ Create estimated budget ■ Develop white paper/business case for senior management ■ Develop implementation plan

FIGURE 3

Providing Visibility into Operations

Process Maps | KPI Management Reports | Centralized Portal

This approach works particularly well for leases, but can be used for any kind of land document processing, including agreements, assignments, regulatory notices and proposals. It can be customized further to establish data standards to prevent documents not meeting defined criteria from proceeding through a process (e.g., missing or incongruent dates, unacceptable provisions, acres and bonuses that do not reconcile). With this approach, managers can become selective and perhaps choose to perform a detailed review of only a sample of documents versus reviewing every document.

The final component in this approach is to integrate workflow with the lease records system. Where possible, companies should index each lease record with a lease form that has preset provision mapping that corresponds with provision codes in the lease records department. This practice drastically reduces keying errors and omissions that could be costly for future reporting.

Next, the workflow should upload the approved record (lease, contract, well, etc.) into the property system. This eliminates time spent on basic data entry of names, dates and provisions, and allows analysts to focus on value-added activities such as quality control, record completion, analyzing provisions, reconciling acreage, and reporting.

Oil and gas companies achieve these objectives through an enterprise lease records system or through their own solutions that offer the flexibility unique to each implementation.

Integrating the workflow with the lease record system does not eliminate errors. Errors can occur during record edits or exceptions to uploaded records. The solution is to anticipate and quickly highlight errors as they occur. A substantial number of errors could be eliminated by defining quality control points that identify exceptions to business norms.

To create quality control points, an organization sets up queries to find instances of, for example, net acres greater than gross acres, or gross acres greater than mapped acres (true tract content). It should be understood that the first time a query runs, it may take a while to correct all anomalies. But after the initial effort, if a manager is committed to running the query frequently and correcting new instances immediately, the list of exceptions

quickly will become manageable.

Development of and commitment to quality control points will ensure organizations can:

- Deliver more accurate reports and maps;
- Reinforce compliance among analysts;
- Earn customer confidence;
- Eliminate lease record stereotypes; and
- Improve morale and job enrichment.

The number of quality control points an organization employs depends on the system's complexity, the amount of validation built into the system, the granularity of the data, and the extent to which an organization generates information from data. A few of the most critical quality control points to consider monitoring are:

- Tract status is held by production, or producing, but acreage is categorized as undeveloped.
- Tract status is held by production, or producing, but no well is related to tract.
- Lease is beyond its primary term, but no well is related to any tracts.
- Well status is plugged and abandoned, but the related tract is still active.
- Wellbore and overriding royalty interest rights are counting (accumulating) acreage.
- There are records without linked images/documents.
- There are royalty rates outside acceptable range.
- There are duplicate recording data, no recording data, or missing or incon-

gruent dates.
- Payments do not match obligations (bonus, option to extend, etc.).
- There are well working interest/net revenue interest anomalies, and/or contradictions in record type, status and acreage category.

Monitoring exceptions by using control points requires an appropriate system infrastructure and land skill set. Technology never will remove all human error, but investing time and dollars in technology will provide an organization with guardrails for practices and procedures so that data quality is not vulnerable.
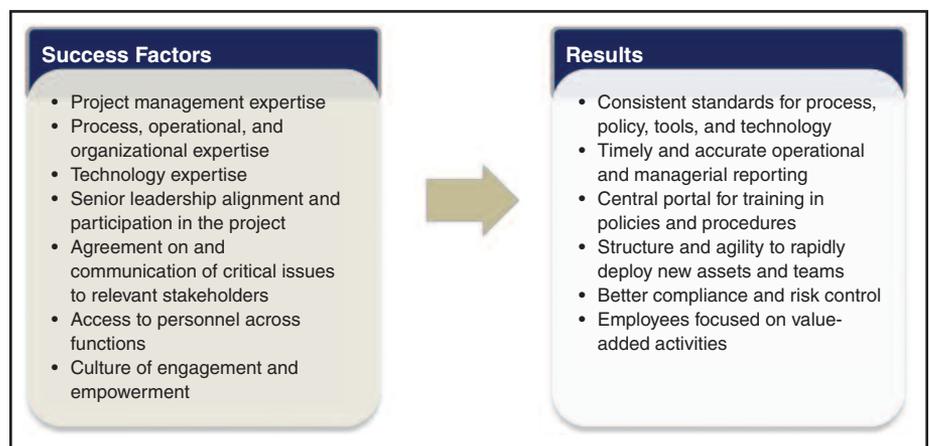
Managing Skill Sets

The use of technology in the land industry has redefined the skill sets required in land operations and land administration. However, many companies may not be staffed with employees prepared for this change. The challenge, then, is for the managers to identify each employee's unique skill set to maximize his utilization and create one cohesive skill set that services the organization.

For example, land operations would benefit greatly from a landman who is strong both in negotiating deals and data analysis. However, a landman with these skills is not always available. Often, landmen will rely on land technicians or land administration staff to handle reporting.

In turn, some companies may employ data specialists within their land administration departments to specifically support lease analysts and landmen with complex reporting requests and mapping needs.

FIGURE 4

Key Success Factors

Success Factors	Results
• Project management expertise • Process, operational, and organizational expertise • Technology expertise • Senior leadership alignment and participation in the project • Agreement on and communication of critical issues to relevant stakeholders • Access to personnel across functions • Culture of engagement and empowerment	• Consistent standards for process, policy, tools, and technology • Timely and accurate operational and managerial reporting • Central portal for training in policies and procedures • Structure and agility to rapidly deploy new assets and teams • Better compliance and risk control • Employees focused on value-added activities

Another way companies adapt is by employing a business analyst in land to help managers identify and mitigate data vulnerabilities by building quality control queries or adjusting procedures. The business analyst may report directly to the land administration manager or land manager, or perhaps the business analyst is from the IT department. Business analysts would be tasked with building new enterprise reports to support land and other customers.

Organizations can improve efficiency, effectiveness, competitive performance and talent retention by implementing and sustaining a set of operational and technological changes across policy, process, and organization. Utilizing technology will help highlight exceptions and data quality issues, reinforce business rules, and ensure consistent utilization of systems. These objectives can be challenging for many organizations (Figure 4).

Considering a company's needs not only today but for tomorrow, and realizing that the person leading land operations and/or land administration today may not be the same person two or three years from now are important considerations for growing a company. Turnovers of managers, landmen and analysts creates vulnerability in operations and data quality unless careful thought has gone into a company's definitions of policy, process, organization, and technology. Leaders should prepare the company today, so they are not caught off guard tomorrow. ❐

WADE BRAWLEY

Wade Brawley is president of Land Information Services LLC. He is a management consultant specializing in land information and workflow solutions for the oil and gas producer. Prior to forming Land Information Services, Brawley worked as a lease analyst, landman and land manager. He served as vice president of land administration at Chesapeake Energy Corp. Brawley has published articles in several magazines and contributed to the fourth edition of "Brock's Petroleum Accounting Principles, Procedures & Issues." Brawley conducted his undergraduate studies at the University of Texas and obtained an M.B.A. at Oklahoma City University

JULIE SHOCHAT

Julie Shochat is a manager at Enite. She has a decade of experience in consulting with energy and utility clients across North America, with experience in managing organizational change across functions and geographic locations. She holds a B.S. in economics with concentrations in information systems and management from Wharton University of Pennsylvania.

SAMANTHA KAST

Samantha Kast is a management consultant at Enite, specializing in business process workflow, operational assessment, and organizational change management for companies operating in the oil and gas industry. She conducted undergraduate studies at Elon University and obtained an M.B.A. at Rice University.