Building trust in the supply chain
Improving supply chain service level through reduced inventory and improved warehouse operations

Client’s challenge
Our client is an upstream oil and gas company in Northern Alberta. A reliable supply chain is essential to the success of the operation, yet the client lacked necessary resources, skill sets and tools to supply its operations and maintenance crews efficiently. Service was unresponsive, which damaged employee confidence in the supply chain organization’s ability to stock essential materials and provisions.

A supply chain assessment project conducted earlier in the year by the client and our expert team had highlighted better warehousing and inventory management practices as priorities. When the client’s annual inventory count confirmed that levels were alarmingly high, we saw an opportunity to redefine stock levels (reduce excess, increase understock) and help improve the warehouse operations for better productivity, more functional storage, and ultimately, cost savings from effective supply-chain performance.

PwC’s solution
The client needed a detailed design and construct plan based on industry best practices to optimize the warehousing and inventory elements of its supply chain operations.

Our team of supply chain and industry specialists already understood the client’s systems and processes for this particular worksite. Our experience and knowledge allowed us to develop a transformation strategy and plan in just nine weeks.

Beyond a speedy project execution our team’s experience also meant a highly targeted approach to analysis, design and construction. This provided the client with better value in terms of the solution cost.

Deliverables included:
- a comprehensive stocking strategy across all warehouses/yards, including unified location numbering and revised layout for the main warehouse
- a controlled and scalable logistics solution for outsourcing transportation and warehousing operations

Getting started
Before beginning the project, our team prepared a detailed workplan to ensure smooth execution within the nine-week timeframe.

- We developed and submitted data request templates ahead of time to enable us to collate and review all the necessary project data.
- We hosted a kick-off meeting with all project stakeholders to ensure alignment on scope, requirements, internal roles, activities, and project support.
- We discussed our approach with key stakeholders and tailored it to their expectations for final project approval.
- We defined benefits metrics for inventory and warehousing opportunities and established a process for weekly tracking.

Understanding client objectives
The client needed to be in a position to implement its new inventory and warehousing plan, with its three key deliverables, at the end of a four months project. This was especially crucial considering the accelerated increases of inventory levels which were beyond CA$1.5 million per month.

Inventory management:
- We conducted a thorough analysis of inventory movement, which involved analyzing the re-order point data in SAP to identify over- and under-stocked units to reduce significant variation from standard stock levels.
• We did a high-level material demand analysis to assess what was most critical based on group usage and analyzed ordering patterns to aggregate procurement processes. The materials requirements planning (MRP) system was modified in SAP to enable automated purchasing and reduce the ordering workload in the client’s Purchasing department.

• We categorized off-site/on-site storage SKUs (Stock Keeping Unit or Material Masters) and developed a list of both dead stock and excess stock SKUs. A Pareto analysis of all SKUs based on storage space and consumption levels helped us finalize a plan for a main warehouse inventory profile to determine items that needed to come from other facilities.

• The detailed inventory model we developed included values for quantity, cubing, criticality tagging, and weekly demand. A governance model was also developed to review and refresh the inventory model on a quarterly basis.

• We established an incident-management review process for material shortages to identify root causes of any issues.

Warehouse slotting and layout:

• We developed a plan to move dead stock and turnaround items off-site so that operations are not disrupted, improving warehouse efficiency and customer service.

• A complete analysis of re-slotting information was conducted. This included consumption, cube and weight of all SKUs. The re-slotting strategy focused on the main warehouse layout and included high-level recommendations for other facilities.

• Kitting and warehouse demand from the inventory model was reviewed to assign SKUs per slot. A detailed slotting and kitting layout was built using cubing assumptions; we also determined the optimal flow of materials and workflow to improve productivity.

• A complete SKU map and slotting layout plan was created for the main warehouse facility. Included were recommendations on storage type (carton or bin) and a list of requirements for material-handling equipment.

• With no warehousing experts on staff, we trained employees to look at the warehouse as a customer-focused space that required sustained operational efficiency rather than a mere storage area. We also developed a re-slotting operations manual and trained staff on a “modeling tool” that can be used for future re-slotting exercises.

Off-site warehousing support:

• The client’s warehousing needs have grown due to its increasing inventory levels. To support this, we identified and evaluated warehousing options that included an off-site location.

• We gathered SAP system requirements for an additional warehouse facility and collaborated with the client to identify third-party warehousing organizations (3PL) in the Northern Alberta market. We also collaborated to short-list potential warehouse organizations based on their scope of services and materials, contact information and footprint coverage.

• A high-level business case was developed to estimate incremental costs and productivity improvements to determine space value for establishing an off-site warehouse facility. We provided support in contracts, negotiation, and finalizing third-party warehousing organization, including logistics service agreements.

• A detailed move plan was developed to relocate slow moving items and turnaround materials to the offsite warehouse location. This included transportation, schedule, resources, system transactions in SAP and a defined pick-up process.

Supporting transformation

The lack of tools, people, and the right mix of skills to transform its supply chain processes. These are areas where we excel.

• We enhanced our team with specialists in materials, inventory, warehousing, and third-party logistics (3PL) outsourcing to drive value for the client.

• Our team’s experience created the right environment to develop innovative approaches and to collaborate with client stakeholders in solving project issues.

• We provided resources, recommendations and training to help the client achieve their goals: our inventory management model keeps them on track with respect to optimal inventory levels. Our training handbook helps them train peers and support staff on the basics of inventory management.

Impact on the client’s business

The project resulted in a huge benefit to the client’s overall business unit with approximately CA$30 million cost avoidance based on optimized inventory levels, more efficient use of space, and increased productivity.

Considering how competitive and cost-intensive the oil and gas industry is, the client is thrilled with this outcome. Management is now considering a follow-up project with our team around root cause analysis. This will examine maintenance processes and identify ways to optimize them to reduce inventory even further.

Root cause analysis will instil “improvement culture” within the client’s supply chain group. Formerly a cost liability due to inefficiencies and lack of trust, improvements have made the supply chain organization a driving force of efficiency and cultural change at the site.

To learn more

To learn more about PwC’s supply chain transformation services, please contact:

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