

Resolving Multi-Million Dollar Variance in Energy Sector Operations

Background

A leading global energy company operates through its subsidiaries to provide natural gas and electric utilities in Pennsylvania, distribute propane both domestically and internationally, and engage in local energy marketing. One of the company's publicly traded holding entities was experiencing significant financial risk due to a multi-million-dollar variance in inventory results for its largest portfolio company. The cause of the variance was unknown, with internal stakeholders suspecting theft as a potential factor.

Objective

The company engaged Empirical to perform a comprehensive diagnostic evaluation of the inventory control process. The primary goal was to identify the root causes of the variance and implement strategies to eliminate it entirely.

Methodology

Empirical employed the DMAIC (Define, Measure, Analyze, Improve, Control) process to address the issue.

Key steps included:

- **Project Charter Development:** Empirical collaborated with the client to establish a detailed project charter outlining objectives, goals, timelines, constraints, success metrics, and key stakeholder groups.
- **Root Cause Identification:** Working closely with the client, Empirical utilized Lean Six Sigma methodologies and tools to identify and validate the primary issues contributing to the inventory variance.
- **Stakeholder Engagement:** Empirical facilitated a series of key stakeholder meetings, site observations, Voice of Customer (VOC) sessions, stakeholder analyses, and strategy discussions. These efforts culminated in a cross-departmental brainstorming session to uncover the root causes and their effects on inventory discrepancies.
- **Diagnostics and Insights:** Empirical identified critical deficiencies in the inventory control process and highlighted additional opportunities for organizational improvement. This analysis led to the client engaging Empirical to oversee the implementation of recommended solutions across Field Operations, Finance, and Supply & Logistics.

Results

Through this structured approach, Empirical achieved the following outcomes:

- **Successfully identified the root cause** of the inventory discrepancies and accounted for all missing inventory
- **Took inventory variance from \$5M to \$0**
- **Moved the inventory systems from manual to telemetry**, effectively eliminating errors
- **Developed and implemented a robust inventory management process** to ensure accurate accounting in the future
- **Provided strategic recommendations** for restructuring leadership roles to mitigate future risks and maintain control over inventory processes



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