



Cement

This use case demonstrates how Qnum Analytics can systematically minimize inventory shrinkage losses for the Cement Industry. Qnum Analytics' OI Platform helps dry bulk operations isolate and control waste and inefficiencies in their processes by enabling AI-powered continuous reconciliation at key points in the process.

Overview

A cement producer new to the South African market had been struggling to contain inventory shrinkage losses. The producer's strategy for capturing the South African cement market relied on operational efficiencies driven by state-of-the-art equipment and systems. However, an inability to confidently reconcile the financial records with physical stock on the floor has limited their capacity to contain shrinkage losses.

The cement producer expressed that the major frustration is in reconciling the production output with finished product sales and remaining stock on hand. There are significant losses in product that cannot be accounted for utilizing their current systems.

Qnum Analytics was asked to analyse the producer's stock management process and highlight the contribution of material handling blind spots and stock survey inconsistencies on costly variances that result in shrinkage losses.

Results

The OI Platform, which is a Software-as-a-Service (SaaS) platform was implemented for a 1-month paid trial.

The dynamic nature of the platform allows it to track all inventory movements including internal exceptions such as spillages, reworks, production dry runs, and transfers to give an inventory level that is very closely aligned to the physical reality.

Bottom-line impact:

- 82% reduction in variance between stock on the floor and the financial records.
- 400-ton (stock valued at \$133,352) reduction in stock write-off losses that would have come from manual stock survey method error.
- 60% month-end stock reconciliation time saved by the finance department.

Approach

1. The cement producer enlisted the assistance of Qnum Analytics in resolving the inventory variance issue.

2. The success criteria designed for the trial were to:

- Uncover the source of inefficiencies and discrepancies
- Empower the cement producer with reports and dashboards that help control in real-time stock variances

3. At the end of the 2-month period the baseline variances were compared with results from Qnum's OI Platform:

- Finance department was able to continuously reconcile inventory using the built-in financial and audit controls which saved a lot of productive time
- Operations was able to proactively isolate and eliminate variances as they occurred during the month, leading to a significant reduction in shrinkage losses.

Concluding remarks:

The following stock management shortcomings were identified as the root cause of the stock variance frustrations:

- Due to their hard-coded nature enterprise resource planning systems cannot cater for unique operational dynamics such as spillages and internal transfers. The transformation of product within the operations affects product value which is not properly accounted for on the financial records.
- It is impractical to conduct daily physical stock counts for verification purposes. This means that operations rely on incorrect data when making key production, supply, and demand decisions. This creates a costly misalignment in the supply chain.
- Even when stock surveys are done, the cement producer was reliant on archaic manual survey technologies that were prone to errors. These errors result in companies often writing off stock unnecessarily.