QNUM ANALYTICS

Food processing

This use case demonstrates how Qnum Analytics assists the Food Processing Industry to minimise inventory shrinkage losses caused by inadequate means to track perishable and fragile stock in a processing plant.

Overview

A sugar refinery with 35% market share in Nigeria has struggled to contain inventory shrinkage losses as the business has expanded.

The growing market has added complexity in their operations with additional products now tracked across multiple plants.

This dynamic has made it extremely difficult to confidently control losses related to perishable and fragile stock. One of their plants in particular has been increasingly reporting excessive inventory shrinkage losses.

Their current inventory management practices which rely on manual stock verification and paperwork processing are unable to adequately isolate and control these losses.and inefficiencies at source.

Results

The OI Platform, which is a Software-as-a-Service (SaaS) platform was implemented at the problematic Food Processing Plant with aim of providing:

1.Real-time tracking of all critical inventory items.
2.Capacity to control shrinkage losses related to product damage and waste.
3.Optimise inventory planning, to allow the business to; maximise the sales of perishable products and optimise production planning to avoid overstocking and stock-outs.

Bottom line impact:

•Access to verified inventory levels every hour, compared to once per week.

•$727,300 savings realised within 3-months due to the enhanced loss prevention inventory controls applied.

•38% reduction in variance between book stock and physical stock.

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Approach

1.The Qnum Analytics team deployed its Industrial Engineering consultants to thoroughly evaluate the end-to-end inventory management processes of the Food Processing plant.

2.The tailored solution design was modelled to incorporate key business rules that integrate robust loss prevention strategies in the Food Processing plant. The OI Solution platform was configured and deployed with the controls thoroughly embedded.

3.At the end of the trial period results the were analysed:
•The Financial Manager could continuously reconcile inventory using the built-in process controls which allowed for the proactive management of variances that lead to inventory write-off losses.
•The operations staff saved a lot of time due to the adoption of stock survey technology.

Concluding remarks:

The following operational management shortcomings were identified as the root cause of the excessive shrinkage losses that were observed by the client:
•The sugary refinery had not adequately adjusted the inventory management practices to properly cater for multi-perishable products handled at a single plant.
•The business rules governing material movements were unclear which exposed opportunities for manipulation and theft.
•Limited inventory management practices that relied on manual paperwork tracking resulted in costly product losses (damage, waste).