



Heavy machinery

This use case demonstrates how Qnum Analytics enables real-time inventory control across multiple sites for the Heavy Machinery industry. Qnum Analytics' OI Platform leverages data science to systematically reduce inventory shrinkage losses caused by theft and operational inefficiency.

Overview

A Heavy Machinery service provider that services the end-to-end plant equipment hire needs of the mining industry has noted a steady decline in profits over the past 2 years.

The service provider has recently, in response to client requirements, begun to store high-value heavy machinery inventory and parts across multiple locations.

This dynamic has made it extremely difficult to confidently control inventory losses while elevating customer service.

The lack of central visibility results in inventory management practices that expose a significant risk of financial losses relating to theft, waste, and operational inefficiency.

Results

The OI Platform, which is a Software-as-a-Service (SaaS) platform was requested by the Heavy Machinery service provider to enable:

1. Real-time inventory visibility across the different sites
2. Control shrinkage losses related to theft and operational inefficiency.
3. Optimise inventory planning, to allow the business to; take advantage of purchasing discounts, monitor project costs, and reduce machine downtime in the client environment.

Bottom line impact:

- 67% reduction in variance between book stock and physical stock on the floor.
- \$526,300 inventory write-off savings realised in just 2-months.
- 23% reduction in machine downtime
- \$112,600 saved through replenishment planning improvements



Approach

1.The Qnum Analytics team deployed its Industrial Engineering consultants to thoroughly evaluate the end-to-end inventory management processes of the Heavy Machinery service provider.



2.The tailored solution design was modelled to incorporate key business rules that drive enhanced stock control for the Heavy Machinery service provider. The OI Solution platform was configured and deployed with the controls thoroughly integrated.



3.The operational staff was trained comprehensively, and the solution was tested by users for a month before Go-Live. This period was to drive elevated user adoption and resolve any procedural concerns.

Concluding remarks:

The following operational management shortcomings were identified as the root cause of the declining profits that were observed by the client:

- The Heavy Machinery service provider had not adequately adjusted the inventory management practices to properly cater for multi-site storage.
- The business rules governing material movements were unclear which exposed opportunities for manipulation and theft.
- Poor management systems resulted in purchasing practices that failed to exploit product warranties.
- Limited inventory tracking capabilities resulted in costly stock-outs.

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