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Solving Supply Chain Use case with SAP & Non SAP data in Alteryx

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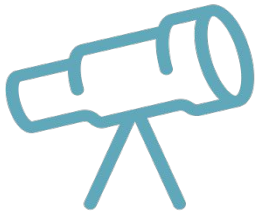
Problem Statement

Excess inventory or stockouts

Consequences are excess inventory tying up resources or stockouts leading to missed sales

Equipment failures

Leading to downtime, increased maintenance costs, and potential safety hazards.



Inefficiency in managing inventory levels

Primary challenge is unpredictable sales forecasts leading to inefficiency in managing inventory levels

Align inventory with demand

Key objective is to align inventory levels with anticipated sales demand

Aligning inventory with demand is critical to avoid excess inventory or stockouts.

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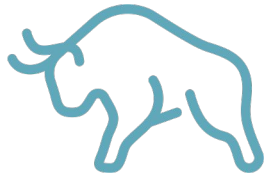
What We Are Solving

Improve demand accuracy

Use advanced techniques like machine learning models to forecast demand more accurately

Adjust inventory strategies

With better demand forecasts, optimize inventory procurement and distribution



Manage inventory effectively

Achieve right inventory levels to meet demand and minimize waste

Allowing proactive equipment maintenance

Minimizing operational disruptions.

By improving demand forecasting accuracy, we can adjust inventory strategies effectively to optimize procurement, distribution and inventory levels.

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What We Are Trying to Achieve

Optimize inventory levels across distribution centers

Right inventory levels in terms of products, quantities, and timing will increase efficiency and avoid excess.

Minimize risk of stockouts

Optimized inventory levels will help avoid running out of needed products.

Enhance customer satisfaction

Customers will be happier when we have the right products available.

Reduce excess inventory costs

Optimizing inventory levels will lower costs from carrying unneeded inventory.

Improving reliability and safety

Optimize maintenance schedules, reduce downtime, and ensure uninterrupted operations.

Optimizing our inventory management will lower costs, reduce risks, and make our customers happier.

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Leveraging Alteryx

Introduction to Alteryx

Alteryx is a leading platform for data blending, predictive analytics, and visualization that helps companies with data preparation and advanced analytics.

Role in Inventory Management

Alteryx plays a key role in inventory management by enabling automation of repetitive tasks, advanced analytics like predictive modeling, and data preparation and cleansing.

Connect to SAP HANA	Extract data from SAP HANA	Transform data in Alteryx	Load data to Destination
Create ODBC data source to connect to SAP HANA database	Use SQL statements in Alteryx to extract data from SAP HANA via ODBC connection	Cleanse, transform and enrich data, do predictions algorithms in Alteryx	Output cleansed and transformed data to destination system

By leveraging Alteryx for inventory management, companies can achieve greater efficiency, insights, and predictive capabilities.

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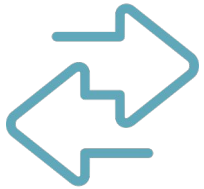
Alteryx and Machine Learning Integration



Overview of how Alteryx integrates with ML for inventory management

Alteryx has connectors for popular ML libraries.

Bringing together data like sales, sensor data, inventory, market trends

Alteryx helps integrate disparate data sources into a single workflow.

Building ML models for forecasting and optimization

Alteryx tools like AutoML allow building ML models without coding.

Streamlining inventory management processes

Alteryx workflows automate end-to-end processes with scheduling and monitoring.

By leveraging Alteryx's capabilities in data integration, analytics, and workflow automation, inventory management processes can be significantly improved through machine learning.

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Role of ML Models

Introduction to Machine Learning

Machine learning is a subset of artificial intelligence that enables systems to learn from data and make predictions.

Sales Forecasting Models

Machine learning models can analyze historical sales data to forecast future sales.

Demand Prediction Algorithms

Algorithms can predict consumer demand based on various factors like seasonality, promotions, etc.

Inventory Optimization Algorithms

Algorithms can determine optimal inventory levels to minimize costs and prevent stockouts.

Predictive Maintenance Models

Predict potential failures before they occur.

Machine learning has many applications in inventory management like forecasting, demand prediction, and inventory optimization that can help address key challenges.

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Implementation Plan

Data Collection

Gather historical sales data, inventory records, market data, from SAP

Model Development

Build and train machine learning models for demand forecasting, equipment failure and inventory optimization

Testing and Validation

Validate models against historical data and real-world scenarios

Deployment

Integrate models into the inventory management system for real-time decision-making

By following this systematic implementation plan, we can leverage data and AI to optimize inventory management.

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Future Steps

Continuous Improvement

Regularly retrain machine learning models on new data to improve accuracy over time.

Scalability

Apply machine learning and Alteryx to additional business areas beyond inventory management.

Collaboration

Enable close collaboration between data scientists, analysts, and business users for ongoing success.

By continuously improving our models, scaling to new areas, and enabling collaboration, we can drive ongoing innovation and value.

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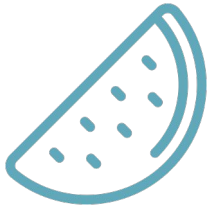
Conclusion



- Recap

We have addressed inventory management challenges through Alteryx and machine learning by connecting SAP data

- Impact

We have optimized inventory levels, reduced costs, predictive maintenance, increased revenue, and enhanced customer satisfaction

- Next Steps

We will implement the plan and strive for continuous improvement

In summary, we have made great progress in overcoming inventory management challenges through advanced analytics, and are well positioned for further enhancements going forward.