

# Empowering Warehousing Efficiency of an Electronics Manufacturing Firm

- Case Study

## Client Details:

- A renowned electronics manufacturer, based in the USA, with operations spanning 7 other countries across the globe.
- They specialize in the design, development, and manufacturing of consumer electronics, including smartphones, tablets, smart home devices, and wearable technology.

## Problem Statement:

- **Lack of real-time visibility:** The client faced challenges in obtaining real-time visibility into their warehousing process, making it difficult to track inventory levels, identify bottlenecks, and optimize operations.
- **Inefficient inventory management:** The existing manual inventory management system resulted in inaccuracies, stockouts, overstocking, and increased carrying costs.
- **Inadequate demand forecasting:** The client struggled with accuracy in forecasting demands, leading to imbalances in inventory levels and resource allocation.
- **Lack of performance tracking:** The client lacked a comprehensive performance tracking system to monitor key performance indicators (KPIs) related to warehousing operations, such as order fulfillment rates, cycle times, and inventory turnover.

## Our Solutions:

**Data integration and consolidation:** We implemented a data integration solution to gather raw data from various sources, including the client's warehouse management system, ERP, and IoT sensors.

**Data cleansing and transformation:** We cleansed and transformed the data to ensure accuracy, consistency, and compatibility for analysis.

**Development of a BI dashboard:** We developed a comprehensive Power BI dashboard that provided real-time insights and visualizations on inventory levels, order status, demand trends, and warehouse performance metrics.

**Predictive analytics for demand forecasting:** We employed predictive analytics models to forecast demand based on historical data, market trends, and external factors.

**Automation:** Our experts discovered avenues for automation and process optimization, including the automation of inventory tracking processes and the strategic optimization of warehouse layout to enhance picking and storage efficiency.

**Business Impact:**

- The Power BI dashboard provided real-time visibility into inventory levels, enabling the client to reduce stockouts by 9% and overstocking by 10%.
- The implementation of accurate inventory tracking and demand forecasting led to a reduction in carrying costs by 11% and we were able to improve the overall inventory accuracy to 98%.
- The predictive analytics models improved demand forecasting accuracy by 17%, resulting in better inventory planning and resource allocation.
- The Power BI dashboard allowed the client to track key performance metrics, leading to an 8% improvement in order fulfillment rates, a 13.4% reduction in cycle times, and an improved inventory turnover.
- The automation and process optimization initiatives resulted in an 11.5% reduction in labor costs and an increased warehouse capacity utilization.

Overall, advanced analytics and the implementation of a Power BI dashboard enabled our client to revamp their warehousing process, leading to improved operational efficiency, reduced costs, and enhanced customer satisfaction.