Project 3: AI-Driven Demand Forecasting for a Consumer Electronics Manufacturer

📍 Industry: Electronics Manufacturing

💰 Project Cost: $5,500

⏳ Project Duration: 12 Weeks

📌 Project Overview

A global electronics manufacturer faced **demand forecasting challenges**, leading to frequent **stockouts and overproduction**. This negatively impacted **profit margins and customer satisfaction**.

⚠️ Challenges Faced

- Fluctuating **market demand trends** affected inventory planning.
- Inaccurate forecasting models led to **stock imbalances**.

🔍 Lean Six Sigma Approach

- Developed an **AI-based predictive analytics model** using **historical sales data**.
- Integrated **real-time market trend tracking** into forecasting models.

🚀 Implementation Details

- Deployed **cloud-based machine learning models** for demand forecasting.
- Adjusted **inventory buffer levels based on AI-driven predictions**.

📊 Key Results & Business Impact

✅ **Forecast accuracy improved by 40%**, reducing unexpected stockouts.
✅ **Stockout incidents reduced by 60%**, leading to higher sales.
✅ **Overproduction cut down by 30%**, reducing waste.
✅ **Revenue increased by 15%** due to better supply-demand alignment.