

Driving Higher Efficiency and Profits in Auto Manufacturing with Power BI Supply Chain Analytics

- **A Case Study**

Client

- Our client is a global manufacturing giant based in the USA, specializing in the automotive industry.
- They are known for producing a range of vehicles and automotive components, upholding their legacy of quality and innovation.
- With operations spanning multiple continents, our client manages a complex supply chain network, including suppliers, advanced production facilities, and an extensive distribution system

Problem

Our client wrestled with supply chain management, facing these subsequent challenges:

- They struggled to choose suitable suppliers and efficiently handle contracts, which led to increased costs and inconsistent supplier relationships.
- The absence of immediate data and analytical tools made it tough to oversee supplier performance and streamline procurement processes. This lack of transparency hampered their ability to optimize procurement procedures.

- The client faced difficulty in mounting procurement expenses that exerted pressure on their profitability and competitive edge. This highlighted the need for implementing cost-reduction strategies.
- Inaccurate demand forecasting practices resulted in stockouts and excess inventory, adversely affecting both customer satisfaction and efficient capital and resource allocation.
- The challenge of managing production schedules across a range of product lines and facilities yielded operational inefficiencies and prolonged lead times in their production processes.
- They lacked the necessary tools to effectively track and analyze their expenditures, making it difficult to identify cost-saving opportunities and allocate resources optimally. This hindered their ability to create and adhere to budgetary constraints, leading to financial inefficiencies and potentially hindering their overall financial health and strategic planning

Solution

After analyzing these challenges, our team of developers designed 3 custom Power BI supply chain dashboards:

- **Procurement Analytics Dashboard**

We implemented a comprehensive procurement analytics dashboard that provided real-time insights into supplier performance, contract management, and expenditure tracking (budget and spend analysis). This enabled our client to make informed decisions when selecting suppliers, negotiating contracts more efficiently and identifying cost-saving opportunities.

- **Production Planning Analytics Dashboard**

To address production schedule challenges, we developed a production planning analytics dashboard. This tool allowed our client to track and monitor production schedules across various product lines and facilities, reducing operational inefficiencies and minimizing lead times.

- **Warehouse Management Analytics Dashboard**

The deployment of a warehouse management analytics dashboard offered inventory visibility and control. By providing access to warehouse maps and real-time tracking of on-time status, it enabled the client to enhance demand forecasting accuracy and effectively address stockouts and excess inventory challenges.

In addition to the dashboards, we enabled robust data management processes that gained them access to accurate and up-to-date data, enabling better decision-making across the supply chain.

Business Impact

With our help in devising advanced data management and Power BI dashboard solutions, our client experienced these significant improvements in their supply chain:

- With the insights from the Procurement Analytics Dashboard, our client experienced a 15% increase in supplier efficiency, enabling them to make more informed decisions in supplier selection and contract negotiations.
- Utilizing the Production Planning Analytics Dashboard, our client successfully reduced operational inefficiencies by an impressive 20%, resulting in enhanced production schedules and significantly reduced lead times.

- The Warehouse Management Analytics Dashboard played a pivotal role in achieving an impressive 18% reduction in excess inventory, greatly improving demand forecasting accuracy.
- With the deployed procurement analytics tools, our client was able to implement effective cost-reduction strategies, leading to a substantial 12% increase in profitability and a stronger competitive position in the market.
- Our data management processes streamlined the client's supply chain data pipelines, ensuring data accuracy and facilitating efficient operations.

Overall, through our tailored Power BI supply chain dashboards and data management solutions, we not only addressed our client's challenges but also empowered them to thrive in the competitive automotive industry, achieving remarkable improvements in supply chain efficiency and increased capital returns.