Global Battery Manufacturer Unlocks Insights from SAP Data to Improve Demand Forecasting in Google Cloud

Overview

For this global manufacturer and distributor of consumer and automotive batteries, enhancing customer service levels without sacrificing efficiency was key to achieving their goals. The ability to analyze and predict manufacturing and sales demand would significantly improve resource planning, product delivery and, ultimately, customer satisfaction—but amalgamating the necessary data to make those decisions was proving difficult. The company's SAP environment could manage its manufacturing processes and financial controls, but it was difficult and costly to source and incorporate third-party data like population demographics, weather forecasts and other outcome-influencing information into one analytics environment.

The challenge

Predicting product demand and accurately assigning resources has a significant impact on the bottom line—especially as a global manufacturer with a vast and complex manufacturing and supply chain. To help improve efficiency, the company sought enhanced, contextual insight into the consumer segments and channels they sell into. While this information would improve efficiency across the board, they specifically wanted to improve demand forecasting for an automotive product that's manufactured just once a year. The key challenge was extracting data from SAP ECC to provide close to real-time transactional data from their Modern Data Layer (MDL) in a more economical manner than their current SAP HANA solution.

The manufacturer was interested in using Google Cloud—which excels at analytics and machine learning—to help address this challenge, so they engaged Google to discuss how to approach modernizing their data environment to achieve their goals.

Technologies

- Google Cloud Cortex Framework
- Google Cloud BigQuery
- Google Cloud
- Google Cloud Composer
- Looker
- SAP SLT
- SAP HANA
- SAP ECC
- AecorSoft

The solution

Based on Google's recommendation, Pythian was engaged by the manufacturer to implement a data environment leveraging Google Cloud to integrate their SAP environment with multi-sourced third-party data. This would help to deliver a substantial improvement in forecasting intelligence and ensure that customer needs were reliably met.

Since analytical results are only as good as the data coming in, Pythian began by identifying any data source issues within the customer's SAP environment. After validating the data's integrity, Pythian and the manufacturer assessed the available information to determine what could potentially predict a sales increase or decrease.

Pythian determined that the Google Cloud Cortex Framework, specifically designed to consolidate data sources, could effectively consolidate and analyze the manufacturer's data to achieve its goals.

Optimizing the environment's performance required additional integrations, including Google Cloud BigQuery (for more efficient storage and querying) and Google Cloud Composer (for scheduling and orchestrating tasks within Google Cloud). Pythian also recommended and installed AecorSoft—which provides ultra-fast replication of SAP data directly into BigQuery—and Looker—an enterprise platform for BI, data applications and embedded analytics—into the Google Cloud environment.

Pythian managed the entire implementation of the Google Cloud Cortex Framework and its integrations, including building dashboards to provide visuals of the data and providing training for the in-house IT team.

Google Cloud Cortex Framework kickstarts insights and reduces time to value with **reference architectures**, **packaged services** and **deployment accelerators** that guide everything from planning to delivery—getting customers up and running in a faster, more cost-effective way. It also helps to bring together disparate data from systems of record—like SAP—with third-party data, merging it into a single data mart.

Results

Pythian successfully deployed Cortex-enabled demand forecasting in the customer's SAP environment. The manufacturer's analytical model now combines third-party data—such as long-term weather forecasting and population data—with their ERP data, to better predict and plan for demand fluctuations in the battery product and automotive product categories.

Overall, the solution provides enhanced visibility and a higher level of accuracy to the customer's operations, while providing a foundation to optimize marketing strategy and activations. Key outcomes included:

- **More accurate forecasting**, resulting in fewer changed and canceled orders.
- **More accurate production and product placement** in the warehouse to fulfill store-level inventory needs.
- Development of a **strong foundation for further transformation** and the ability to use **machine learning** for different product lines in other parts of the business.
- Ability for the marketing team to **kickstart insights**, adapt to changing market demands and reduce time to value.

Ready to unlock the power of your disparate data and see what problems you can solve?

Get in touch with a Pythian Google Cloud expert to see how our team can help.

About Pythian

Founded in 1997, Pythian is a global IT services company that helps organizations transform how they compete and win by helping them turn data into valuable insights, predictions and products. From cloud automation to machine learning, Pythian designs, implements and supports customized solutions to the toughest data challenges.

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