



Manufacturing

Streamlining F&B Product Portfolio With Demand Forecasting And Inventory Optimization

Reduced the wastage and improved safety stocks



Industry

F&B Coffee House Chain



Function

Supply Chain,
Procurement, and
Inventory Planning



Data Used

1. Sales Data
2. Customer Data
3. Merchandise Data
4. Promotion Campaign Data
5. Macroeconomic Data



Tech Stack

1. Azure HDinsight
2. Azure DevOps

Who Is The Client?

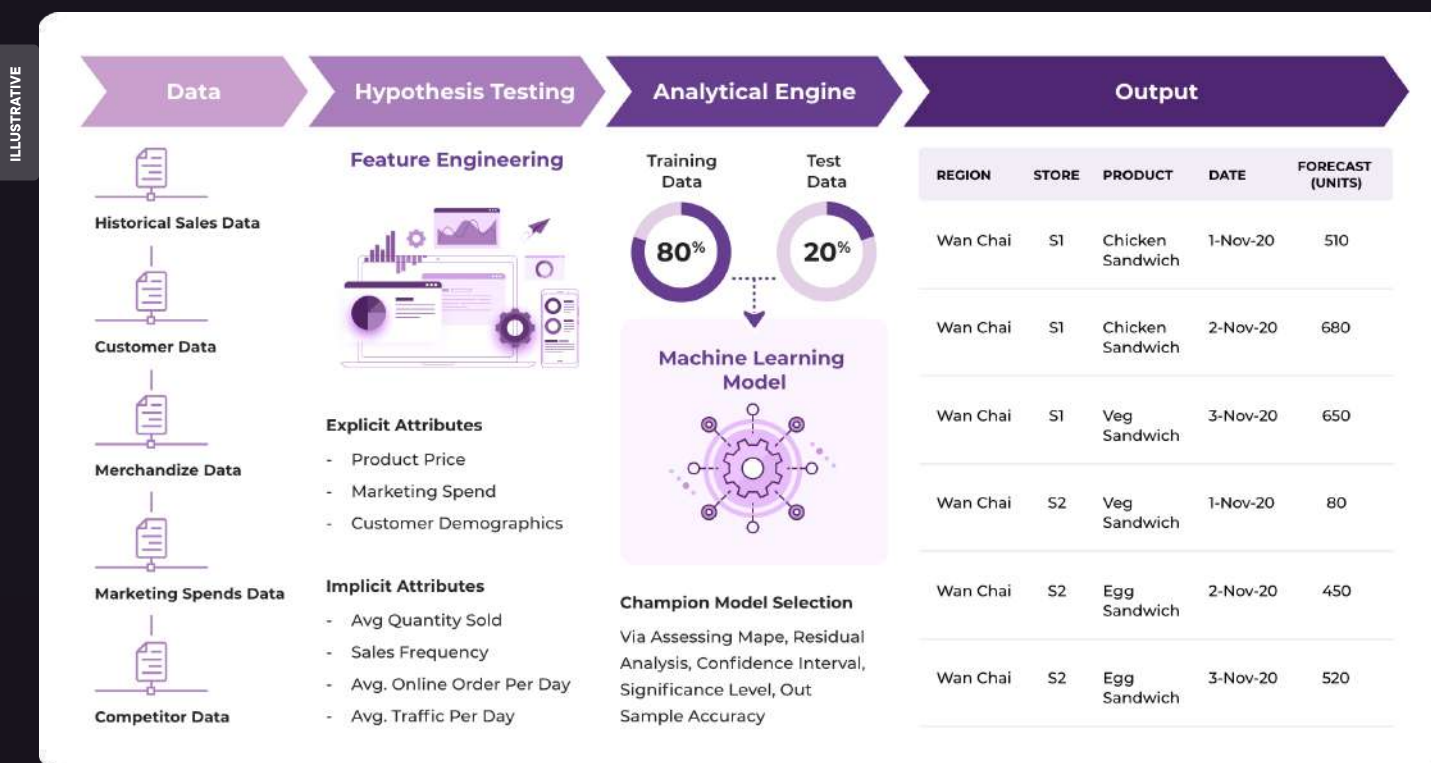
The go-to source for a cuppa Joe, delectable sandwiches, or flaky croissants with the sunset's glow, the client is a globally renowned coffee house chain. Their freshly brewed creative lighter fluids (a.k.a. coffee) and sumptuous snacks can rejuvenate exhausted souls.

Business Quandary

The client needed to integrate within their existing functionalities a method for automating inventory processes and tracking demand. They wanted Affine to develop an extremely precise demand forecast analyzer for its perishable and short shelf-life offerings. Additionally, they wanted to improve the accuracy of their safety stock estimation. The end goal was to avoid stock-outs and excess inventory.

How Did We Solve The Problem?

Affine's Analytics Engineers and AI experts filtered relevant data that would help in predicting daily demand and safety stock levels, such as sales data, customer feedback, competitor analysis, merchandise information, and weather patterns, to brew an analytical dataset. We trained a model using Linear Regression and Machine Learning. This was infused into the firm's pre-existing systems (rather than creating a new platform) to incorporate advanced forecasting techniques.



The Pay Off


Affine distilled the client's supply chain management with customized solutions such as integrated demand forecasting and inventory planning to power predictable outputs relating to inventory and safety stock. This enabled the client to make data-driven decisions, such as establishing re-order points. Therefore, they could successfully take into account the criticality of time with respect to perishable products with short shelf life.

We brought flavours of feature engineering, scenario generation, and replenishment recommendations together to create an enriching harmony of systems.

Interested To Learn More?

Connect with our Manufacturing CoE experts!

Email Us


Safety Stock & Re-Order Point Estimation Tool

1

Store
Store A

2

Date
01/11/2020

3

Menu
Food

4

Food Type
Sandwiches

5

Run



6

Save








7

Export

2

Service Level
90%   Modify

3

PRODUCT	SERVICE LEVEL	SAFETY STOCK	RE-ORDER POINT
Veg Grilled Sandwich	90% 	177	300
Cheese Croissant	90% 	200	350
Tuna Sandwich	90% 	230	370
Egg Breakfast Sandwich	90% 	270	450
Salmon Croissant	90% 	240	380
Chicken Club Sandwich	90% 	270	460
Basil Tomato Sandwich	80% 	290	430

Notes

1

Filters to select a particular food type for which safety stock & reorder point needs to be estimated


2

Capability to configure service level which will apply to each SKU's safety stock estimation

3

Safety stock & re-order point for each SKU

4

 Option to modify service level at individual product level as per needs

ILLUSTRATIVE

Augmented Outcomes

- Improvised decision-making process
- Lower Total Cost of Ownership
- Reduction in waste of perishables
- Increased efficiency in planning systems