

CASE STUDY

# Assortment Analytics and Recommendations





## Client Background

A British multinational fast-moving consumer goods company with a 90+ year legacy, is organized into five key business groups: Beauty & wellbeing, personal care, home care, nutrition, and ice-cream.



## ASK

Build a Predictive model and provide insights for maintaining and growing the business.

- Identify optimal quantity to be sold by outlets by SKU's
- Identify SKU's likely to be out of stock.
- Maintain OSA
- Identify new sales opportunities by SKU's & outlet


Applicability across channels, geographies and outlets of varied sizes

Create "perfect stores" by improving on-shelf availability, reducing stocks-outs and enhancing assortment.

Influence neighborhood behavior to generate recommendations.



## OUR WORK



Used internal data and geo tagging data (to identify the neighborhood areas) to build ML models to predict OOS on time, recommend must sell SKUs and identify the outlets that are not currently selling the SKUs and recommend the SKUs to sold

Applied Random Forest Collaborative Filtering and Deep learning algorithms for the recommendations

This solution is scaled for India market and 26 other countries (Asia specific countries, Africa, Brazil etc.)

An end-to-end solution comprises of Spark ML, Azure SQL Database, Azure Analysis service and Power BI (for visualization)

Developed as a cloud native (Azure) application

Storage layer in Azure Data Lake Store (ADLS)



## TOOLS / TECHNOLOGIES

ML | Azure, AWS | Data bricks | Python | Spot fleet instances

Drove \$160M additional sales revenue/year, **120M** out of stock predictions every month

OSA: Optimized the replenishment recommendations by **30%** leading to **300** BPS increase in replenishment



### BUSINESS OUTCOME

Monthly churn analysis recommendation duration improved from **1 week to 5 hours**

Reduced development cost by **50%** for extending an algorithm to new countries because of the generic framework implementation





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