Normalising daily sales position leveraging advanced smoothening and forecasting techniques

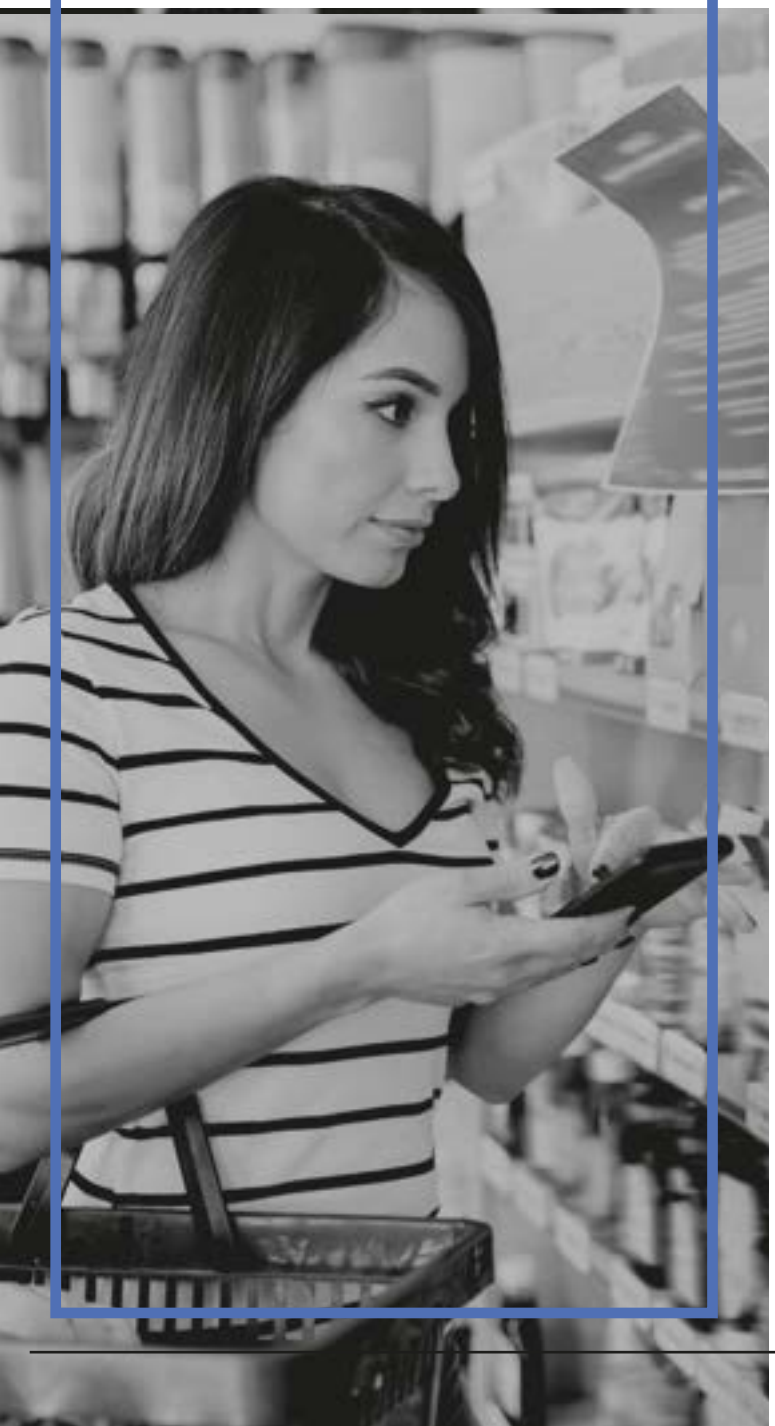


Aays

Accurate Reporting
of daily business position

Better Governance and control
on trade expenditure

For CPG companies, accurate reporting of daily business position is crucial, but often challenging. This case study reveals how utilizing data analytics revolutionized the way a multi-billion-dollar global consumer goods company tackled this issue. By implementing advanced smoothening and forecasting techniques, they achieved accurate daily sales reporting, informed decision-making, improved trust in data, better governance over trade expenditures, optimized spending, enhanced visibility on seasonal changes, and proactive adaptation to shifting demand.



COMPANY

This is a multi-billion-dollar global consumer goods company, producing some of the world's best-known brands in confectionary. They have operations in over 80 countries; and their products are being sold in over 130 countries. Given the complexity of the company's operations and the need to manage its finances in a globally integrated manner, the client understands the need of finance teams to be well-resourced and well-equipped with sophisticated financial tools and technologies.

CUSTOMER NEEDS

• Due to adhoc posting of trade expenditure, it was difficult to determine and report daily business position (primarily Net Sales Value).

• It is noted that trade expenditure was being added up mostly at the end of each week, which made it difficult to get a clear understanding of expenses and net sales value (NSV) during the weekdays.

• A significant amount was added to trade expenditure at the end of each month resulting in a considerable spike in NSV reporting which is an aberration.

Given this scenario, the finance team was looking for a better way of reporting the daily sales position leveraging advanced smoothening techniques.

Moreover, the management was looking to forecast customer wise daily sales report and then roll up to an aggregated level.



CHALLENGES

Following were some of the key challenges:

• Extracting valuable insights from a massive and diverse data structure was a major challenge. Integrating and harmonizing data from various planning tools and software added to the complexity.

• The data landscape was both complicated and segregated, necessitating a sophisticated data architecture solution to manage and analyse large amounts of data efficiently.

• Not all customers exhibited regular purchasing patterns and seasonality, making it necessary to clean up the data and perform analysis at the appropriate granularity. Additionally, allocating trade expenses at a customer level presented challenges in data management.



OUR APPROACH

We facilitated multiple workshops as a trusted partner, involving key stakeholders from various functions and locations.

1. An in-depth exploratory analysis was conducted to gain insights into the following:

• Different purchasing patterns and trends among customers were analyzed to identify a subset of customers demonstrating statistical stationarity and regularity in sales. The insights revealed that approximately 18% of the total customers accounted for 95% of NSV.

• Exploratory analysis was also performed at the product portfolio level to understand the seasonality and buying patterns.

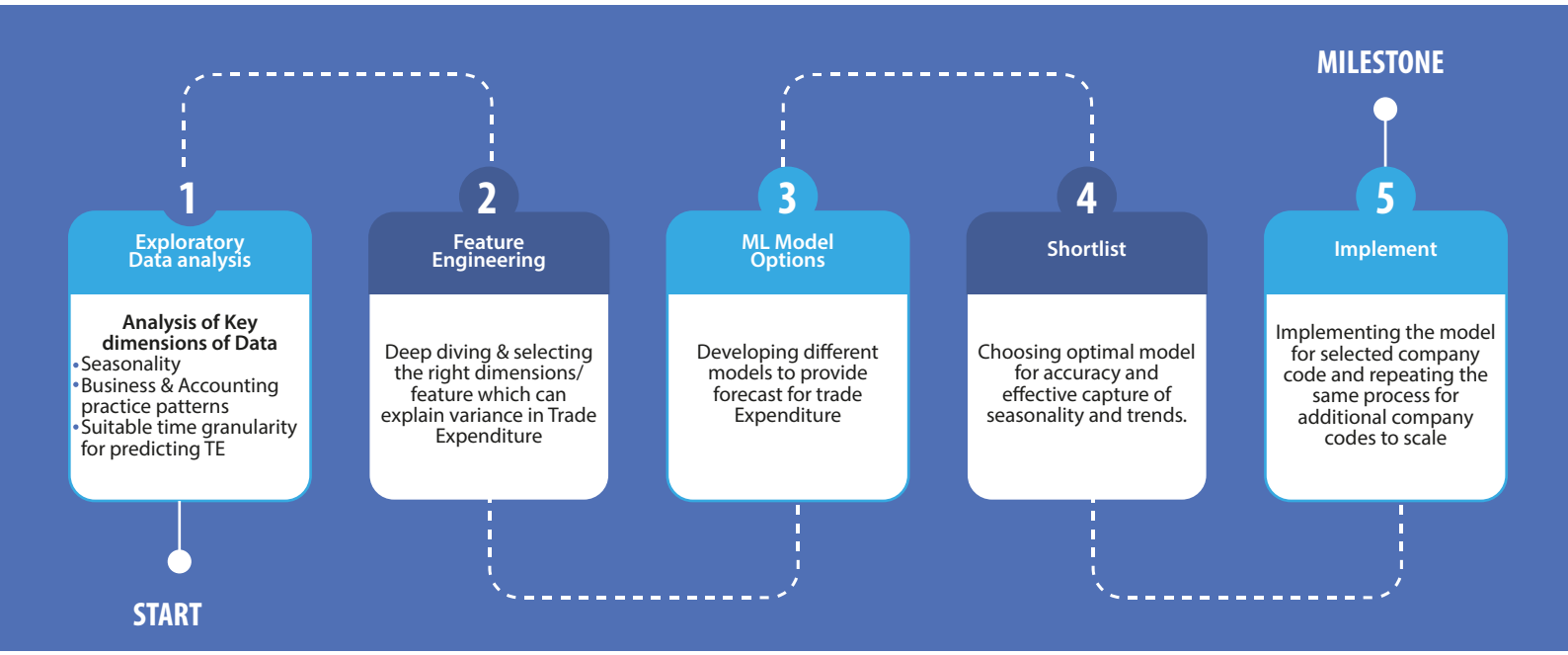
• The ad hoc practice of posting trade expenses resulted in an inaccurate representation of daily net sales. Further analysis revealed a lag factor between trade or promotional expenses and sales.

Additionally, capturing trade expenses on a monthly basis improved the trend curve as a percentage of sales.•Once the appropriate granularity was determined, dimensions and features that explained variance in trade expenditure were identified and selected for modeling the sales trend.

2. ML model Options:
Different machine learning models viz. FB Prophet, Auto Regression, Exponential Smoothing, and ARIMA were utilized for forecasting trade expenditure and then to smoothen the impact of adhoc reporting thereby providing a better representation of net sales.

3. Shortlisting:
The most suitable model was selected based on its accuracy and ability to capture seasonality and trends effectively.

4. Implementation:
The solution was implemented for a specific geography and then scaled it to add additional geographies/ region which has its own complexity and nuances.



BUSINESS OUTCOMES

• **Accurate reporting of Daily Business Position:**
Management was able to generate better reports on their daily business position. This helped them make informed business decisions that aligned with their strategic objectives.

• **Improved trust in data for forecasting and budgeting:**
With reliable and normalised data available, the CPG company gained better trust in their data for forecasting and budgeting purposes. This led to improved accuracy in their financial planning and resource allocation.

• **Better governance and control on trade expenditures:**
The implementation of analytics capabilities provided the CPG company with better governance and control over their trade expenditures. This helped them optimize their spending and reduce unnecessary costs.





Aays

Aays Analytics is a boutique AI & data consulting firm which specialises in democratising data science and ML in corporate finance space. We partner with global conglomerates having large, complex data footprints and help them contextualise their data science journey with deep functional focus. Since our inception in 2018, we have solved some of the most complex business problems faced by fortune 1000 and fast-growing companies in the world utilising big data, cloud computing, and AI/ML.

We are backed by a strong management team with IIT/IIM background and over a decade of industry experience with fortune 100 companies. We are ranked among the top 5 fastest growing companies in Analytics India magazine's (AIM) list of the best data science providers in India for 2022.