SIGMOID

Demand forecasting for CPG

Industry overview

The ever-changing consumer behaviour coupled with increasing market volatility amidst the pandemic have forced organizations to build a robust and resilient supply-chain model. This has resulted in demand forecasting being ranked amongst the top 3 AI/ML use cases by CPG companies and retailers, whose key focus areas include improving customer experience as well as operational efficiency.

26%
of IT budget of CPG firms go to supply chain and forecasting

Source: CGT

65%
of retailers consistently stock out on fast-moving categories

Source: Retail System Research

$1.75 TR
losses recorded globally due to mismanaged inventory

Source: Auburn University RFID Lab

Challenges to improve forecast accuracy

Volatile demand
Significant fluctuations in demand patterns triggered by events like COVID-19

Data availability and access
Unavailability of POS data and existing gaps in supply chain information

Data integration
Disparate data sources and inaccuracies in warehouse stock information
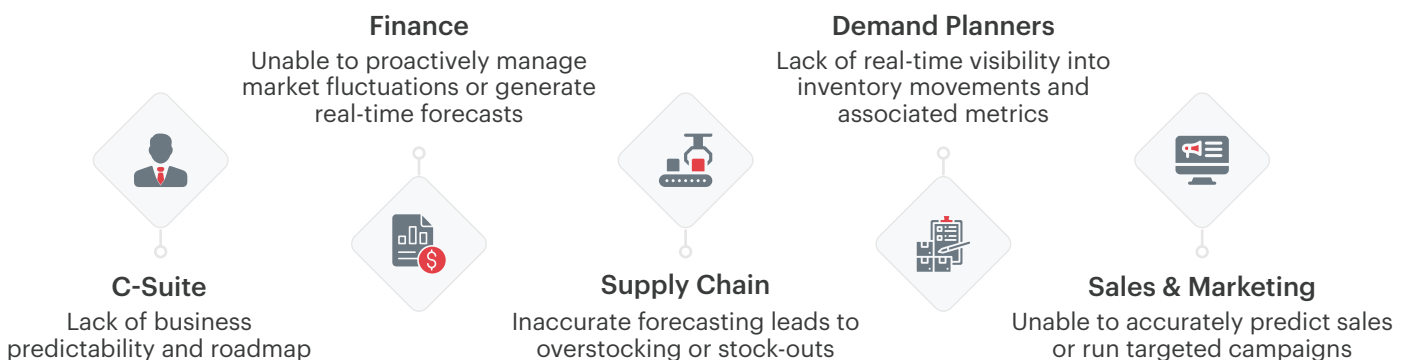
Tools and skill gaps
Lack of data analytics tools, skill resources, and increased dependency on vendors

Associated impact

- Revenue loss
- Inventory stock-outs
- Poor service levels
- Ineffective decisions
- Overhead expenses

How different teams are affected by inaccurate demand forecasting

Finance
Unable to proactively manage market fluctuations or generate real-time forecasts

Demand Planners
Lack of real-time visibility into inventory movements and associated metrics

C-Suite
Lack of business predictability and roadmap

Supply Chain
Inaccurate forecasting leads to overstocking or stock-outs

Sales & Marketing
Unable to accurately predict sales or run targeted campaigns

Demand forecasting services by Sigmoid

Sigmoid's demand forecasting services improve efficiency of supply chain operations and inventory planning by building ML models that identify shifts in consumer behaviour and enable SKU-level optimization for e-commerce. Our modeling performance captures real-world dynamics like:

Coverage of customer decision dynamics	Model accuracy and performance measurement	Data availability and measurement standards

Case Study:

70% better accuracy in demand forecasting for Cosmetics Company

Situation

The cosmetics company wanted a solution for:

a) Their supply chain team to optimize inventory and reduce stockouts.

b) Their campaign management team to reduce planning lead time.

What did Sigmoid do?

Sigmoid created a robust demand forecasting ML model using a stacked approach combining XGBoost and Random Forest.

The solution was deployed by building ETL pipelines and automating training and prediction components. The model was further automated and scaled using an Apache Spark-based architecture.

Results

$30MN + savings in inventory handling cost

2.7x improved demand forecast prediction accuracy

60% reduction in campaign planning lead time

Watch video to see how Sigmoid's demand forecasting solution improved sales by over 12%.

How Sigmoid helps CPG Companies

CPG companies improve business impact with marketing measurement and optimization, enhance demand forecasting accuracy, and save costs through inventory planning using Sigmoid's data engineering and AI/ML solutions. We help consumer goods enterprises define analytics strategy, accelerate cloud data modernization and strengthen their ability to integrate data from multiple sources while improving the data quality.

Contact Us

Reach out to our data experts at **marketing@sigmoid.com** to improve the accuracy of your demand forecasting systems, enhance supply chain operations and optimize inventory management.

Contact Us