

## Demand Forecasting for one of world's largest Health Information Technologies and Clinical Research Firm

### Summary

The client is a provider of health information services, commercial outsourcing services for pharmaceuticals and healthcare organizations.

### Challenge

The pharmaceutical industry has been grappling with fluctuating demand for seasonal products resulting in potential loss of revenue or wastage of inventory.

- Inaccurate estimates of demand
- Time to build forecasting models is long (usually 4-6 weeks)
- Potential loss of revenue due to stockouts

Forecasting the expected demand for any pharmaceutical product is affected by multitude of sources, most of them external and unpredictable. Traditional demand forecasting methods based on machine learning and advanced analytics fell short on, mainly due to the play of external factors and nature of such sources of data.

### Solution

The solution was a robust forecasting tool that could extract signals from diverse set of data sources including unstructured data and develop low-latency forecasts (daily or hourly) of expected demand for any pharma product at pharmacy-level. This solution was built on mAdvisor, an AI & Cognitive Computing Platform from Marlabs. The solution designed for this client was based on two Innovative Features – Automated NLP Analysis and Automated Machine Learning. The users would have access to the forecasted results for the respective geographies and product categories, get sales recommendations for a region or a store, causal factors influencing sales, comments from social media and review forums. Sales Account executives can click on a map to drill down to the KPIs, Metrics, Forecast and Analysis for the region chosen.

"Since the implementation of mAdvisor, our ability to use data science has increased manifold. Compiling data from external as well as internal sources to generate forecasts was a major upgrade to our existing methodologies."

- Chief Technology Officer

Solution Differentiators are:

- **Emphasis on alternate data** - Sales Volumes of Medicines and Drugs are heavily influenced by external factors like Weather, Disease Outbreak, Lifestyle Changes, Hygiene etc. mAdvisor places emphasis on alternate data on and above the traditional forecasting approaches.
- **Scalability** – Separate models are built for each of the hundreds of product categories and the factors influencing these product categories which was not possible in traditional approach due to time and people limitations.
- **Comprehensive Solution** – Designed as a single solution that curates external data, analyzes sales performance, identifies causal factors, forecasts sales volumes and provides recommendations.
- **Domain Specific** – It is a domain specific app wherein the curated data, KPIs, Recommendations are all designed specific to Lifesciences and Healthcare.

### Results

The solution was deployed in a private cloud instance of the health information services provider to be used by internal data analysts as well as the sales executives from Lifesciences and Pharma companies. The solution helped the health information services provider to differentiate its data offerings from rest of the market by offering AI & Cognitive Apps along with its data service. Enhanced customer experience from the end users of health information services firm due to accurate sales forecasts, sales recommendations

- The inventory turnover is reduced from **180 days to 150 days** for the client
- It also resulted in annual savings of **\$10M.**

## About mAdvisor

mAdvisor is a patent pending AI & Cognitive Computing platform, which helps enterprises to translate data into meaningful insights and narratives without any manual intervention. Now enterprises can reduce the analytics timelines from weeks to minutes using mAdvisor.

mAdvisor employs cognitive technologies like machine learning, machine reasoning, deep learning, natural language generation, natural language processing and expert rules systems, thereby enabling enterprises to identify revenue streams, enhance customer experience and productivity.

## About Marlabs

Marlabs helps companies adopt digital transformation using Digital360 - a comprehensive digital framework comprising of Digital Product Engineering, Digital Automation, Enterprise Analytics, Cloud, Digital Security and User Experience; delivering a next-generation Digital Customer Experience.

Marlabs' digital life-cycle model delivers rapid innovation using prototyping, co-creation, concept-to-completion and rapid deployment.

Marlabs' innovation labs, "marlabs.next" incubates cutting-edge technologies like Intent-Intelligence, IoT, IoP, Blockchain and Hyper-Personalization.

### Headquarters

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<https://www.marlabs.com/cognitive-computing-platform/>

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