incedo

Self-learning demand forecasts leveraging Machine learning ensure zero stock-outs, minimal Holding stock & wastage for a leading biotech company

The Big Picture

Having access to forecasting is increasingly becoming a top priority for organizations today. Our client, a leading biotechnology company that discovers, develops, manufactures, and commercializes medicines to treat patients with severe or life-threatening medical conditions, faced challenges with print material demand forecasting. For promoting the branded drugs, sales reps need bouquets of print materials that they use at various events and conferences. The quantity of the ordered print material varies significantly with season and event type, and the typical replenishment lead time is one month. With multiple brands to work with, each having more than 100 items, the client was looking for solutions to assess and estimate the demand for these items as currently, demand estimations are based on expert judgment, making it a time consuming process with a higher risk of errors.

The Problem

The client needed to assess the potential demand for their products and items, mitigating the chances of stockouts, minimal holding stocks, and wastage. With over 150 items to be forecasted, the client reported scarce data points in over 50% of the items. A lot of similar items carried different names, which required the need for an extensive cleansing of data to be able to identify them. Also, the sudden activation of inactive items made organizing full history to be complicated. Incedo had to identify the best model for over 150 items using the right techniques.

Our Solutions

Incedo developed a print material forecast model leveraging its ML-based time series models, which enabled the client to have high forecast accuracy. The robust self-learning model entailed looking at specific raw data sets, i.e., that PO data, invoice data, and the events data. To achieve this, Incedo engineered an automated data pipeline to collect the data from various sources, clean and transform the data. Incedo leveraged its machine learning techniques to develop an ML engine. This approach incorporated a family of predictive models, including ARMA, moving average, and naive/seasonal naive models providing an insight into the future demand. The ML engine detects autoregressive components, moving average components, seasonality, and trends to produce a material forecast and provide a macro-level picture for the entire business.

The Impact

- Efficient forecast using ML based time-series models leading to optimized item ordering
- Robust demand forecasting model with 85% accuracy for items
- Better managed inventory allocation with reduced overheads and flexible access to data and self-service at enterprise level
- Light & fast dashboard with real time reaction to pre-emptively adapt to market changes and variation in actual item demand
- Gives a baseline forecast with reasonable accuracy enabling the user to order accordingly
- Forecast demand of new items allowing introduction of new items in user inventory

About Incedo

Incedo is a digital transformation expert empowering companies to realize sustainable business impact from their digital investments. Our integrated services and platforms that connect strategy and execution, are built on the foundation of Design, AI, Data, and strong engineering capabilities blended with our deep domain expertise from digital natives.

With over 3,000 professionals in the US, Canada, Latin America, and India and a large, diverse portfolio of long term, Fortune 500 and fast-growing clients worldwide, we work across financial services, telecom, product engineering, and life sciences industries. Visit our website to learn more about how we help clients transform today :www.incedoinc.com

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