Predictive analytics for air cargo bookings online

SAS Cargo

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Company description

SAS Cargo is the leading air cargo carrier to, from, via and within Scandinavia. We offer cargo capacity on up to 1100 flights covering all of Scandinavia, using SAS fleet and dedicated truck operations. In cooperation with other carriers, we offer air freight services to all continents. We manage the cargo capacity of Scandinavian Airlines and is responsible for sales & marketing, customer support, revenue and handling management, accounting and IT.

SAS Cargo is an independent and wholly owned subsidiary to Scandinavian Airlines with its head office at Copenhagen Airport. We offer cargo capacity on the entire SAS network as well as through an extensive trucking network. Our customers are freight forwarders like DSV, DHL, Kuehne+Nagel and Leman.

Project description

Our internal booking portal is developed as Self-service center where customers entering their requirements are getting various offers with a price and date available. 80% of all cargo bookings are done online via portal.

Some air freights are booked as allotment, which means that the freight forwards reserves the same capacity on a specific route on specific dates for a period. The largest share of air freight is booked ad hoc with a few day notice. Therefore, we want to be better at forecasting customer requests based on the data in booking portal, actual historical bookings and macro-economic parameters. At our booking portal we track request dates, origin, destination, volume, weight, commodity type, available offers and selected offers.

Even without extensive data analysis we know number of factors influencing customer demand such as seasonality (for cherry products in US or fish shipping from Norway) or some weekly patterns among big companies (like Pharma that make regular bookings on Mondays). Demand is also influenced greatly by external factors such as macroeconomic indicators, commodity prices, etc. E.g. Fuel is the biggest cost of transportation - increase in fuel price has a few months delay in transportation costs.

The goal of the project is to combine our internal data (historic data from bookings and user behavioral data from our portal) and external macro data to identify traffic, rate trends and predict next booking request from the customers. We imagine that at the end of the project we would identify the main drivers and develop an algorithm, which can help us forecasting future requirements on customer level (demand forecasting and/or booking prediction model).

**Data:** We have an extensive historic data on customer bookings/transactions and 6 months behavioral data on users from our portal (i.e. when customers request but not book online, how often they return, etc.). The data should be available as extract from Tableau but if needed you can also get an access to other parts of our BI Systems