

**What We Did:** Improvement of the existing recommendation engine to increase revenue from ancillary services offered to passengers who check-in through web or kiosk for a leading airline company.

**The Impact We Made:** With improved recommendations, a 30% lift in revenue from ancillary services was observed, for passengers who check-in through web.

### Summary – Improved recommendation engine to accelerate revenue

The marketing team of a leading airlines organization uses a recommendation engine developed by a third party to offer ancillary services to passengers who check-in through web or kiosk. The team wanted to improve the performance of this recommendation engine in order to increase revenue from ancillary services.

### The Challenge - Lack of visibility leading to poor recommendations

Since the existing recommendation engine was developed by a third party vendor, the marketing team of the client had little knowledge about it. Also, sales conversion of the recommendations made by the existing engine was approximately 8%, which was low. The third party did not provide a lot of visibility into the algorithm used to generate recommendations and hence the client was unable to recommend many revisions.

### About The Client - A large U.S. airline

The client is one of the largest airlines in the United States, serving more than 700 destinations worldwide. We were approached by their Loyalty team which caters to customer relationship and management, by designing and executing trigger based as well as Business as usual (BAU). They were looking to use big data and predictive analytics to identify and understand the preferences of their travelers.

### The Approach - Predictive analytics to understand customer preferences

Mu Sigma used a structured approach to be able to optimize the recommendation engine.

- The team first tried to understand and research on the existing recommendation engine to search for defects due to improper structure or usage of applications
- Post that, an automated report was created that captures all the metrics of the engine at every level and gives a clear understanding of the tool's performance on a daily/ weekly basis
- The team then monitored and analyzed the metrics from the report and framed hypotheses. The validation of these hypotheses helped understand how the model exactly works, where the problem lies and how the model should be tweaked to improve the performance
- Through exploratory insight generation, recommendations on what more data needs to be captured were made for the engine to predict better.
- With additional information/ data available and appropriate modeling recommendation engine was improved

### The Outcome - Increased revenue

This improved recommendation engine showed a lift of 30% in revenue for passengers who check-in through web, and a lift of 3% in kiosk. Mu Sigma team is now working towards improving the lift in kiosk.

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