

## Identifying the main drivers of customer satisfaction and dissatisfaction by mining customer verbatim feedback

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### Project Background

As competition is getting fiercer, it is vital for companies to improve their products and services constantly to satisfy their customers. Only if a company understands and acts upon drivers of satisfaction and dissatisfaction, can it survive in the competitive markets. EasyJet conducts customer satisfaction surveys, where customers rate and comment on various touch points of their customer experience. So far, only the rating has been considered. If customers comment on their experience, more valuable information can be extracted, as text allows more valuable insights than ratings alone. However, the complexity of analysing the data is higher with text data, especially when the amount of information is not manageable by a human.

### Data and Methods

The data used in the analysis was collected over a 14 month period from April 2014 to May 2015 and was provided by easyJet. It contains customer and flight data and ratings and comments on touch points during the customer journey. For the analysis of the text, two approaches are used: topic models and aspect based sentiment analysis. The topic model algorithm used is *Latent Dirichlet Allocation* (LDA), which is an unsupervised algorithm to identify common topics from a set of documents, where it is assumed that a document is formed of many topics and each topic is a distribution over words. Aspect based sentiment analysis describes the task of identifying frequent aspects from the text and classifying the related sentiment. It is therefore more granular than sentiment analysis on document level, assuming that the document bears only one sentiment.

### Key findings

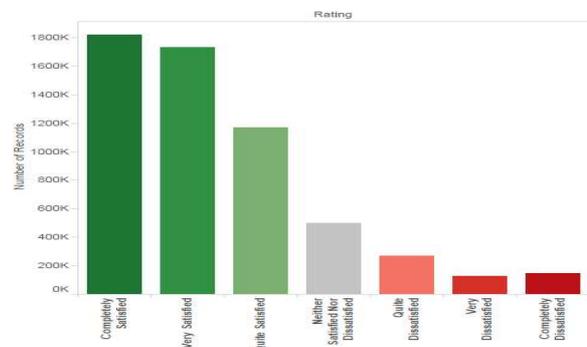
The topic model of comments after a positive rating and the topic model of comments after a negative rating were considerably different. In the positive comments, the topics were the *usability* and *ease of use* of the website, also efficiency of processes, as well as the staff or customer service. In negative comments, customers complained about delays, queues or inefficiency of processes. Further, the handling of cabin baggage seemed to cause dissatisfaction and so did the information/communication on delays. Service encounters seem to be one of the most important drivers for customer satisfaction. A friendly and helpful crew drives customer satisfaction, whereas a crew that is rude, does not smile or does not help drives dissatisfaction. Announcements of the

cabin crew have room for improvement. In case of delays or changes, customers are not satisfied with the information they get and the style of communication of the crew. The cabin crew plays an important role in safety and security.

The cabin bag guarantee policy seems to be one of the main drivers of customer dissatisfaction, as it is discussed mostly in negative sentiment context.

Customers appreciate processes that run smoothly and efficiently and dislike disruptions, delays and waiting times. The longer customers have to wait, the less satisfied they are. The facilities at the boarding gate seem to be very important. Customers dislike it if they are in the wrong terminal or have to go long ways.

Many customers state that they are neither interested in food and drink, nor did they pay attention to the menu or purchase anything. This means that cross-selling potential is not realised. The selection and the quality of the food are discussed controversially. Customer segmentation might give more insights.



Frequency of satisfaction ratings of all rated touchpoints

### Value of the Research

The analysis has found main drivers of customer satisfaction as well as dissatisfaction that could be used to improve service quality, which could lead to customers purchasing again or recommending the service. The thesis is at the interface of academic research and application in business; it describes and discusses both, managerial implications and the applicability of topic models and sentiment analysis in industrial context. The way of presenting and visualising the results was carefully chosen to allow managers to understand the findings easily.