Project Overview + Context

Lexus of Mishawaka is an authorized Lexus dealership conveniently located on Grape Road in Mishawaka, Indiana. Lexus of Mishawaka is a full-service dealership offering their guests not only a full line-up of all new and L/Certified Lexus vehicles, numerous luxury and mid-range vehicles from similar brands, but also a friendly and relible service and parts department. In order, to ensure Lexus of Mishawaka is accurately serving their market and the needs of their guests', Lexus of Mishawaka has tasked their in-house Marketing and Information Specialist, Martell Tardy, with the task of analyzing their 2004 -2017 historical data for insight.

Hypothesis

How can the historical sales data from 2004 - 2017 be analysed and deployed into a machine learning model forecasting consumer demand and vehicle production?

Criteria for success

Success for this project would be the training and deployment of a machine learning model that will be able to forecast which Lexus, Toyota, and non-Toyota models are necessary to have in the dealership inventory 12 to 24 months starting April 2017. This forecast will improve dealer order and inventory management, optimize plant production scheduling, and increase understanding of consumer demand in the market.

Scope of solution space

The historical sales data for only the Lexus of Mishawaka dealership in Mishawaka, Indiana between June 2004 to March 2017 will be analyzed.

Constraints

1. The dataset contains only sold information. No information about the inventory sent to auction available at this time.
2. The Vehicle Identification Number (VIN) wasn't invented until 1954, therefore vehicles before this date sold in this dataset will not have vehicle information.

Stakeholders

Management at Lexus of Mishawaka and plant production management at the Lexus Corporate level.

Data Source(s)

The dataset for this project was collected directly from the Lexus of Mishawaka Principle, Perry Watson III via their CRM system, VINSolutions in March 2017.