Social Forecasting

Final Assignment (Supplemental)

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Instructions

For your final model, you will need to analyse and forecast the evolution of public transportation demand over time. **Your report needs to include the following**:

1. Brief introduction to the problem and your approach
2. Brief description of the method/combination and justification for this choice (both theoretical and technical)
3. If relevant, all estimated equations associated with constructing forecasts from this method
4. Report the MAPE and MAE for the training period and the validation period. You may also report other metrics if relevant.
5. Forecasts for the following periods as specified. If you choose option 3 below, split your data into a learning set (80% of the data) and a "future" set (20%).
6. A single figure showing the fit of the final version of the model to the entire period available in the data (i.e., in-sample fit. For options 1 and 2, you do not have access to the "future" data). Note that the figure may include subfigures but all must fit in a single panel. Presentation matters, so make sure your plots are easy to understand and convey the information as effectively as possible.

Total word limit (all included): 1,500. NB: this is a maximum, not a target. Please submit your assignment via Blackboard.

Problem Description

A public transportation company is expecting increased demand for its services and is planning to acquire new buses and extend its terminals. These investments require a reliable forecast of future demand. The company's has data on each 15-minute interval between 6:30 and 22:00 on the number of passengers arriving at the terminal. As a forecasting consultant, you have been asked to create a forecasting method that can generate forecasts for the number of passengers arriving at the terminal.

Available Data

Part of the historic information is available in the file publicTransport_part.csv. The file contains the worksheet "Historic Information" with known demand for a 3-week period, separated into 15-minute intervals. Your job is to predict the period from 22-Mar-05 at 6:30 to 24-Mar-05 at 22:00.