TV Channel Forecast Documentation

Jeffrey Uslan

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This documentation will serve as guide to reproduce work done on modeling TV spending impact on site visits via several channel. The scripts of import are the following:

* tv\_channel\_models\_data\_munge.R
* report\_functions.R
* TV\_channel\_Arima\_forecast\_uploader.R
* TV\_channel\_models\_lite.Rmd

### tv\_channel\_models\_data\_munge.R

At present, this script pulls TV Spending and Gross Merchandising Value data from "tvanalysis\_wgmv.xlsx" and site visit data from a google sheet called "channeldata with home". Ideally, these data will be pulled from a data base where they are updated, in uniform format, so the dependent analyses will be dynamically updated.

These data sources are then processed into a single data frame for easy processing in the scripts following.

### report\_functions.R

This script contatin many functions used in the report generator and spreadsheet creator.

### TV\_channel\_Arima\_forecast\_uploader.R

This script creates a dataframe with the following columns:

* Date
* GMV
* tv.spend
* tv\_forecasted
* oganic.net.home
* oganic.net.home.lift
* oganic.net.home.lift.low.bound
* oganic.net.home.lift.upper.bound
* oganic.home
* oganic.home.lift
* oganic.home.lift.low.bound
* oganic.home.lift.upper.bound
* direct.net.home
* direct.net.home.lift
* direct.net.home.lift.low.bound
* direct.net.home.lift.upper.bound
* direct.home
* direct.home.lift
* direct.home.lift.low.bound
* direct.home.lift.upper.bound
* paid.brand
* paid.brand.lift
* paid.brand.lift.low.bound
* paid.brand.lift.upper.bound

The report elaborates further, but the lift values are only directionally accurate approximations. The lower and upper bounds and produced using the TV spending coefficient confidence interval endpoints with a 80% confidence level.

### TV\_channel\_models\_lite.Rmd

This script must be run from Rstudio, an R integrated development environment. It will produce a presentation-ready report with diagnostics and model information in an appendix.