"Modeling Television Audience Behavior Using Aggregate Ratings Data"

Peter J Danaher
Coles Myer Chair in Marketing and Retailing
Melbourne Business School, Australia

ABSTRACT

The television environment is changing rapidly, with the number of channels increasing each year, and the delivery method going from terrestrial, to cable, to satellite and now to the Internet and cell phones. This all adds to the complexity of understanding television viewing behavior, and yet, despite these challenges, a review of the literature reveals that this is a surprisingly neglected area of thorough academic and industry endeavor.

Normally it would be best to use individual-level data for understanding television audience behavior, but such data are not commonly available in the industry and are near-impossible to collect over an extended time period due to technical issues with peoplemeters. For this reason, we use a little-known nested logit model that is suitable for aggregate television ratings data. In keeping with most prior studies, we restrict estimation and validation to the period 6-11pm. We have program ratings for each network and for 6 of the satellite channels in a market with over 70 channels. Moreover, we have program name, rerun and genre information for the entire 2004-2008 period.

Our findings show that the estimate of the inclusive value is 0.0981, being relatively close to zero, and thereby indicating considerable viewer indifference to program alternatives. We also find that time-of-day, day-of-week and seasonality effects are very important for modeling the total audience, that is, the decision to view anything. Few holidays have an impact on total audience, with the exception of Labor Day and Christmas Day, where total audience is lower. At the program level, lower ratings are observed for reruns and longer programs (such as movies). Program genre was put into four categories ("light" – e.g., comedy, "heavy" – e.g., drama, sports and movies), and the majority of these were significant across channels. Lastly, program lead-in is significant.