



Graded assignment: Discrete Choice

The objective of this assignment is to (i) develop a logit model for the Optima dataset and (ii) to do some validation of the model. You have to work in the groups that have been assigned to you by the teaching assistants, which you have received by e-mail. You can also find the groups in the course website.

In particular you should:

1. Develop a logit: you should start with a simple model and test various specifications. The aim is to get the best model you can. In the report you should justify why the model you propose is the best amongst the ones you tried. Remember to use both formal (t-tests, likelihood ratio test...) and informal tests (look at the signs of the parameters, trade-offs...) to justify the choice of the final model.
2. Comment on the model obtained: how do you interpret the obtained parameters? What do the signs mean? Are the parameters significant?
3. Validate the model: (i) compute the current market shares of each of the modes from the data and (ii) compute the predicted market shares of each mode from your model (use *biosim* and excel). Do you obtain what you expected?
4. Bonus: to obtain bonus points you can also compute the shares by segments (different age segments, different genders...) to see how well your model is doing in different segments.

Deliverables

Please send your results by e-mail (one per group) to the teaching assistant (anna.fernandezantolin@epfl.ch). The e-mail should have the subject line *assignment 1 decision-aid methodologies* and needs to include:

- Model file: the *.mod* file of your final model.
- Results file: the *.html* file of your final model.
- Excel file: the excel file you used to compute the market shares.
- A report of maximum 2 double-sided pages that covers the points described above.

Due date

17th April 2014

Grading scale: 100 points

- Model specification: 20 points
- Description of the steps to reach the final model and of other strategies you tried and did not work: 20 points
- Computation of market shares: 25 points
- Report: 35 points. The quality of the comments you make on the parameters of the final model and the final model in general will be taken into account here.
- Bonus points: the maximum is +10 points.