Mixed Integer Linear Programming Formulation of a Multi-Attribute Threshold Model of Choice

Maria Joseph Xavier
Indian Institute of Management Calcutta
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Thesis Advisory Committee:

Prof. C K Mustafi (thesis supervisor), Indian Institute of Management Calcutta

Prof. A P Arora, Indian Institute of Management Calcutta

Prof. B R K Kashyap, Indian Institute of Management Calcutta

Thesis Summary

In the case of choice involving multi-attribute alternatives, the simple additive model is inadequate when the decision maker initially narrows the number of alternatives to an 'acceptable set' by using a threshold rule and then makes a choice from the 'acceptable set' using an additive rule. A new methodology is presented here for estimating the parameters of the multi-attribute threshold model of choice using mathematical programming approach and illustrated with an application.

This methodology can be also used for higher order additives and interactive additive models and can also be extended to conjoint measurement. Also a generalized model of multi-attribute choice is presented and the threshold model, the additive model and many other models are the special cases of the same.