Summary: In conjoint experiments, each respondent receives a set of profiles to rate. Sometimes, the profiles are expensive prototypes that respondents have to test before rating them. Designing these experiments involves determining how many and which profiles each respondent has to rate and how many respondents are needed. To that end, the set of profiles offered to a respondent is treated as a separate block in the design and a random respondent effect is used in the model because profile ratings from the same respondent are correlated. Optimal conjoint designs are then obtained by means of an adapted version of an algorithm for finding $\mathcal{D}$-optimal split-plot designs. A key feature of the design construction algorithm is that it returns the optimal number of respondents and the optimal number of profiles each respondent has to evaluate for a given number of profiles. The properties of the optimal designs are described in detail and some practical recommendations are given.

Reviewer: Reviewer (Berlin)

MSC:

62K05	Optimal statistical designs
62K10	Statistical block designs
62-08	Computational methods for problems pertaining to statistics

Cited in **5** Documents

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