Letters to the Editor

Conjoint Analysis

A useful tool for assessing preferences for environmental issues

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In the course of the review process of our article 'Conjoint Analysis for Environmental Valuation – A Review of Methods and Applications' (Alriksson and Öberg 2008), we have realized that the environmental community in general is not well familiar with the topic 'Conjoint Analysis'. Therefore, in order to pave the way for our article, we would like to present a short introduction in this theme.

Environmental awareness has created a need among companies and organisations to have a strategy for dealing with environmental issues. Numerous and diversified environmental requirements makes it necessary for companies and organisations to set up an environmental strategy. It is not always an easy task to decide on which environmental objectives to set nor to choose the level of these objectives. Thus, there is a need for a method to assist companies to sort their potential objectives and decide on what issues to address primarily.

Studies have shown that different groups focus on different environmental issues (SIFO 2006). Socio-economic factors such as income, gender, education and occupation influences the way the individual – or the group – will prioritize environmental issues. The decisions on these issues, however, are generally made by environmentally committed persons. The groups – segments – that are not as committed are seldom represented in a correct way.

The problem of segmentation has been addressed in areas such as marketing, health management and quality management. In these areas it is crucial to have knowledge on what factors/attributes of a product or service that influences the customer/consumer in the purchase situation. Conjoint analysis is a method that has been used in a wide scale since the 60's (Wittink et al. 1994) for these purposes.

Therefore, a set of methods known as stated preference methods has been developed where preferences for a product/situation/service are assessed. There are a number of related methods that all can be regarded as stated preference methods, conjoint analysis, choice experiment and contingent valuation to mention a few. These methods differ in their theoretical background but there are some common denominators. First, a number of attributes are developed that describes the product, situation or service that one wants to assess.

These attributes are given a number of levels (high/medium/low) and an experimental design is used to create a set of hypothetical products or situations where the levels of the attributes are varied (Green & Srinivasan 1990).

Each stimulus is then presented to the respondent and the respondent is asked to rank, rate or choose between these stimuli. Statistically, preferences are estimated for each respondent and her or his preference for the attributes.

Traditionally, conjoint analysis has been used to assess qualities and attributes of products and health management services. However, the method has proven useful also when it comes to assessing environmental issues. We have tried to compile the studies that are completed so far and where conjoint analysis is adapted to one or several environmental issues. More studies are being published continuously, and this shows that more and more researchers are beginning to realize the advantages of conjoint analyses in the field of environmental science.

We have completed a review of the literature and found 84 studies where conjoint analysis in some form has been used to assess an environmental issue. So far, the method has mainly been used on recreational situations, products, ecosystem management and environmental valuation but there are indications that the method may work well also with more comprehensive issues such as risk management (Winslott Hiselius 2005) and strategic environmental decision-making.

The main advantage of the conjoint analysis method is that it illustrates the preferences with the customers/consumers. If the method is combined with other statistical methods such as cluster analysis, even more information can be drawn from the results, such as hidden segments and socio-economic factors that affect the preferences with the respondents.

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