

Chapter 6

Conjoint Analysis in Pricing Studies

This chapter discusses how pricing studies are performed when conjoint analysis is applied. The general approach is to include price in the conjoint study as yet another attribute. We will explain how this is done, and review a selection of publications which explicitly focus on the estimation of willingness-to-pay (WTP).

Subsequent to this it will be developed what problems can arise from traditional approaches when price is included as an attribute. Three problems that can be identified will be the main focus of attention. These are (1) theoretical problems, (2) practical problems, and (3) estimation problems. Each of these problems will be discussed in detail. These problems will be emphasized and it will be illustrated how they can be overcome when the new estimation approach, the PE scene, is applied.

6.1 Introduction

According to the literature pricing studies are one of the most important applications of conjoint analysis (e.g., Gustafsson et al. (2000, pp. 6-7)).

In a study on conjoint applications in the US in the years 1981-1985 Wittink and Cattin (1989) surveyed 59 companies who carried out 1062 conjoint studies. 38% of the identified studies were pricing studies. In a similar study on the application of conjoint analysis in the European market in the years 1986-1991 Wittink and Burhenne (1994) surveyed 66 companies and reported a total of 956 conjoint studies. Out of these 46% were pricing studies. Baier (1999) carried out a smaller study in the German market. 8 companies were interviewed and 382 conjoint studies were identified, of which 62% were pricing studies. Hartmann and Sattler (2002a,b) surveyed 54 marketing research institutes in Germany, Austria, and Switzerland in the year 2001. These institutes performed a total of 304 studies regarding preference measurement. 121 studies were documented in greater detail by the marketing research institutes, showing that 48% were pricing studies.

Not only surveys of the usage of conjoint analysis show the importance of pricing research. Publications of the application of conjoint analysis in scientific journals also illustrates their importance. In a broad review Voeth (1999) summarizes the publications on conjoint

analysis in German between the years 1976-1998. Most of the identified 150 studies were published in the 1990s. 31 studies explicitly focused on pricing.

Some of the best examples from the literature regarding pricing studies performed by conjoint analysis in important German and English scientific journals are Currim et al. (1981), Mahajan et al. (1982), Goldberg et al. (1984), Green and Krieger (1990), Balderjahn (1991), Green and Krieger (1992), Balderjahn (1994), Eggenberger and Christof (1996), and Green et al. (1997). As can be seen from practical applications and journal publications, pricing studies are an important field of conjoint analysis. Apparently, conjoint analysis is a method which is well suited for pricing studies (Diller, 2000, p. 202).

In order to design a pricing strategy exceptionally insightful knowledge is needed regarding to the reaction of customers to different price schemes. Questions like the following must be answered: How many customers will buy a certain product at different price levels? What does the preference structure of the customers look like for different product configurations under different prices? Can variations of a specific feature for different products be assigned a monetary equivalent? Can customers be classified based upon their preference structure? With conjoint analysis researchers and marketing experts attempt to answer these questions.

The major approach in pricing studies by conjoint analysis is incorporating the price in the study as an additional attribute (e.g., Green and Srinivasan (1990), Orme (2001)). The levels of the attribute price are then assigned part-worth utilities like the other attributes, and relative utility differences between combinations of attributes can then be computed. For different part-worth utilities of price points interpolation heuristics are applied. For example consider an attribute price with two levels. Similar to other conjoint attributes, part-worths are estimated for the two price levels. Between the two price levels interpolation heuristics are applied estimating a utility for every price point between the two price levels.

With a utility score for every possible price the preference of the respondents for every product price combination can be computed. With the additional information which products the customers would actually buy (and not only prefer) the marketing questions stated above can be answered.

6.2 Selected Publication on the Estimation of Willingness-to-Pay

The following paragraphs discuss five publications in chronological order. These are the publications by Kohli and Mahajan (1991), Wübker and Mahajan (1999), Jedidi and Zhang (2002), Sattler and Nitschke (2003), and Backhaus and Brzoska (2004). The publications serve well to show the development in the estimation of willingness-to-pay by conjoint analysis over the past 15 years. In these studies the authors estimate willingness-to-pay from conjoint data which include price as an attribute.