the consumer packaged-goods industry, price-sensitive customers *choose* to use coupons more; and price-sensitive customers with large families *choose* to buy in bulk to get savings. When sales are anonymous or through third parties, then segmentation by self-selection is often the only viable alternative for a firm.

Using an explicit sorting mechanism to segment is relatively easy from an implementation standpoint, though one may face legal and customer acceptance issues in the process. With self-selection, legality is rarely an issue, but the firm risks a large amount of dilution—many customers in one segment ending up purchasing products not designed for them. Indeed, there is little a firm can do to prevent a rich consumer cutting out coupons or a business traveler staying over a Saturday night to get cheaper airfare. Still, the segmentation is considered successful if a *sufficient* number in each segment respond the way the firm had envisioned (substantiability). It is important, therefore, that the segment not be defined too narrowly as customer behavior is hard to predict except in an aggregate probabilistic sense. Most RM segmentation is of the self-selection type.

11.1.2   Product Design

Product design is the flip side of segmentation—"differentiating" the products to target the identified segments, with the idea of charging more for products targeted at customer segments with higher willingness to pay. As is the case for customer segmentation, there are very few models and analysis techniques currently used for RM product design. We present one methodology, conjoint analysis, that has found some success as a tool for physical product design and can conceivably used to design RM products also.

11.1.2.1   Product Design Using Conjoint Analysis

Conjoint analysis originated from statistical work by Luce and Tukey [348] and is widely used in marketing [224, 574]. Its role has expanded, from an initial positive goal of multiattribute utility measurement, to more normative uses such as new product design, segmentation, product positioning, and even pricing.

Many market-research firms now offer conjoint analysis as a service and commercial PC and Web-based software (Sawtooth Software, SAS) has become widely available to support it.