Appendix A

The Construction of Verbal Models: Modelling Customer Satisfaction

Abstract

This appendix will present a concrete and detailed example of the construction of verbal models through the application of the methodology presented in Chapter X. In particular, we illustrate a case study from our own research carried out in a large Italian automotive company and related to the analysis of the voice of customer (VOC) in the development of new products. In current approaches to new product development, the VOC analysis is a fundamental step in the early design phases and the main critical aspects concern the translation of customers’ wishes and requests into functional and technical specifications for concept development. Traditional models for VOC analysis usually neglect the importance of collecting qualitative information provided by customers and do not consider the way such information is processed by customers. Our hypothesis is that customers satisfaction has to be analyzed with a cognitive approach, according to the steps of the methodological approach presented in Chapter X: Eliciting/mapping individual customer’s explanation linking the satisfaction level to product’s characteristics and constructing
verbal models in order to identify product’s attributes that are more influential on customer’s satisfaction.

Critical Issues in Voice of Customer Analysis

Nowadays, a firm’s approach to product design is based on the simultaneous involvement of teams composed of controllers, designers, marketing, and logistic experts from the first development phases of a new product or a service. This approach allows new products or services to be presented in time, costs to be minimized, and profit to be maximized throughout all the product’s life cycle. In particular, in one of the early phases of new product design, the performance requirements analysis, marketing experts collect and analyze the voice of customers (VOC) in order to elicitate customers’ needs and wishes and to define the relative importance of the product’s characteristics. Then customers’ preferences have to be analyzed in order to identify functional specifications for the design of the new product.

Usually customer’s preferences are expressed through the natural language. In traditional approaches customers are asked to evaluate attributes and characteristics of the product on the basis of given evaluation criteria, and to express their judgements through numeric scales. Customers’ preferences are then elaborated through statistical analysis and compared with the same values of competitors’ products.

The current approach faces numerous problems due to oversimplification of customer reasoning and incapability to deal with qualitative verbal information. Four critical points are present in the first step of the process:

a. **The item’s meaning**: The traditional approach does not take into account that: (1) each customer attributes a subjective meaning to a given evaluation item; (2) the evaluation criteria do not have the same importance; (3) different customers use different parameters and criteria in the evaluation process.

b. **The item’s ratings**: Customers are not able to express precise evaluations because there is no threshold in the transition between verbal evaluations expressed on a given verbal scale; moreover, it has been proven that different individuals attribute different meaning to the same rating value.

c. **The representation of the evaluation process**: Scarce attention is paid to the cognitive structure of customer evaluation processes. It’s usually supposed that the customer’s satisfaction has a rational and addictive structure in which interactions and trade-offs are neglected.
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