

Title	感性データモデリングに関する研究とそのモデリングに基づくアンティーク製品の推奨システム
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## Abstract

The market demand for traditional crafts all over the world is decreasing. Traditional crafts are more expensive but less functional than substitute products. Therefore, the development of traditional crafts is necessary to preserve them. Traditional crafts themselves have aesthetic attributes such as brand image, individual preferences, and cultural backgrounds which do not exist in substitute products. These aesthetic attributes are key factors in attracting the consumers. For traditional products, the decision-making process of the consumer is influenced by their individual feelings. By discovering and transferring these feelings into the product design, we can increase demand for traditional crafts. Our objective in this dissertation is to propose a model for representing these aesthetic aspects of traditional crafts. In Kansei Engineering (KE), these aesthetic attributes are called “Kansei attributes” and defined using Kansei words.

According to the research by Kansei Engineering (KE) and evaluation, a Kansei experiment is usually conducted in advance to build the Kansei database of products in which products are assessed according to a predefined set of their Kansei attributes from a population of subjects, typically by means of the semantic differential (SD) method. The Kansei database is then used to generate the so-called Kansei profiles of products, which serve as knowledge for the purpose of affective design or consumer-oriented evaluation. Basically, there are two main approaches to modeling Kansei data for generating Kansei profiles. In the first approach, which has been used in many KE studies, Kansei data is usually treated as numerical data in which a Kansei judgment is viewed as a crisp score and the average of scores given by a population of subjects is defined as the Kansei profile of products. Alternatively, the second approach recently proposed is based on voting model semantics for generating Kansei profiles in which Kansei judgment is viewed as categorical data. However, both these approaches of Kansei data modeling do not take into account the fuzziness inherent in Kansei data.

This dissertation addresses the problem of Kansei evaluation and modeling for personalized recommendation and design support. In particular, it first proposes a novel approach to modeling Kansei data that can capture not only the uncertainty of Kansei data due to subjective judgments but also the fuzziness inherent in Kansei data due to their qualitative nature. Then, a new method for generating the Kansei profiles of products making use of the proposed approach of Kansei data modeling is also developed. Eventually, the newly developed

method for generating the Kansei profiles is integrated into the target-based decision model in order to develop a consumer-oriented evaluation model for personalized recommendation in traditional products.

**Keywords:** Kansei data; Linguistic variable; Semantic overlapping; Consumer-oriented evaluation; Decision support system